

Bulletin Home

The Undergraduate Bulletin is the most current information available about undergraduate programs at University of Wisconsin-Stout. Information regarding fees, admission, graduation requirements, names, telephone numbers, and course offerings, is subject to change.

Accreditation

UW-Stout is accredited by the Higher Learning Commission.

Higher Learning Commission
230 South La Salle Street, Suite 7-500
Chicago, IL 60602-2504

Phone: 800-621-7740

Individual academic programs may also receive accreditation from other agencies. Learn more about accreditation on the [Curriculum](#) website.

Minnesota Student Addendum

The University of Wisconsin-Stout is registered as a public institution with the Minnesota Office of Higher Education pursuant to sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.

The University

UW-Stout

UW-Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1891 by [James Huff Stout](#). A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the traditional curriculum. Since its founding, UW-Stout has gained a position of national leadership in its specialized areas. Although UW-Stout is a career-oriented university, the humanities, social and natural sciences are key parts of the total educational program.

UW-Stout's Special Mission

UW-Stout, as a special mission institution, serves a unique role in the UW System. UW-Stout is characterized by a distinctive array of programs leading to professional careers focused on the needs of society. The university offers undergraduate and graduate programs leading to professional careers in industry, commerce, education and human services through the study of technology, applied mathematics and science, art, business, industrial management, human behavior, family and consumer sciences, and manufacturing-related engineering and technologies. These programs are presented through an approach to learning which involves integration of theory, practice and experimentation. Extending UW-Stout's mission into the future requires that instruction, research and public service programs be adapted and modified as the needs of society change.

Learn more about [UW-Stout's Mission, Vision and Values](#).

Wisconsin's Polytechnic University

University of Wisconsin-Stout is a comprehensive, career-focused [polytechnic university](#) where students, faculty and staff use applied learning, scientific theory and research to solve real-world problems, grow the state economy and serve society. Our tenets:

Career Focus: A polytechnic university offers a comprehensive curriculum that prepares graduates for professional careers.

Applied Learning: A polytechnic university blends theory with practice to produce innovative solutions to real world problems.

Collaboration: A polytechnic university works closely with business, industry and other educational institutions to benefit students and grow the economy.

Recognized Quality

In 2001, UW-Stout became the first university in the nation to receive the [Malcolm Baldrige National Quality Award](#), America's highest honor for performance excellence and quality achievement.

The university's mission driven, market smart focus promotes collaborative leadership and an inclusive strategic planning process. Baldrige Award criteria are used by organizations worldwide. Winning organizations become quality advocates, informing thousands about the criteria benefits, including better employee relations, higher productivity and greater customer satisfaction.

The Faculty and Academic Staff

Because UW-Stout has specialized in certain areas, we have developed a staff of individuals nationally recognized in their fields. All classes are taught by the faculty and academic staff except for a small number of laboratory courses which are taught by highly qualified graduate assistants. With a staff of 489, the student-teacher ratio is about 17:1. The faculty's commitment to provide extra help to students is, one of UW-Stout's proudest traditions.

Students

In terms of enrollment, UW-Stout is not a local or state school. Its 9,535 students come from 44 states and 42 nations. Students have a major voice in the affairs of the university and sit on important university committees. Besides regular and informal meetings with students, the university's chancellor has an "open door policy." Students participate in more than 165 clubs and organizations on campus, including national fraternities and sororities.

Facilities

Modern and well-equipped facilities mark UW-Stout's 125-acre campus. We are proud of our laboratory-intensive programs. More than 240 laboratories are available for study and research in the areas of electronics, power, industrial management, industrial design, industrial graphics, packaging, plastics, graphic communications and telecommunications.

Located in the center of the city of Menomonie, adjacent to the downtown business district and Lake Menomin, UW-Stout offers an attractive, convenient and accessible campus setting.

The Community

Located in scenic western Wisconsin, Menomonie has a population of approximately 16,000. The area's natural beauty, with lakes, rivers and hills, provides many year-round recreational and sports opportunities. Major entertainment and cultural activities are available on campus, in the community and in the nearby Minneapolis-St. Paul metropolitan area, about an hour away.

Admission

Information for All Applicants

This section provides general information for degree-seeking students. If you wish to take classes for professional or personal development, you need only read the section titled "Special Students."

If you will be taking classes to work toward a degree, you must apply for admission to the university. You can obtain a UW System Application for Admission form by contacting the Office of Admissions at UW-Stout, contacting any Wisconsin or Minnesota high school guidance office, or online at apply.wisconsin.edu.

Applications to UW-Stout may be submitted beginning September 1 for admission to the following fall term. There is no deadline for applications; however, we are limited in the number of students we can accept. Applicants may declare a major on the application form or apply as "undecided."

Keep in mind that you may also have to meet entry standards set by a school or department. See the sections on the individual programs for more information.

UW-Stout will keep you informed of pertinent changes at the university. If you have the chance to study part time elsewhere, you will be able to check the transferability of your course work to UW-Stout by contacting the university's Admissions Office. If transferring from a UW System institution, check online at the [Transfer Wisconsin](#) website.

Notice: You must provide the university with accurate information about your personal and educational history. UW-Stout's policy is

that students who intentionally falsify or omit information given as part of their university record will be suspended.

Auditing Classes

If you are not concerned about receiving college credit for courses you take, you may audit classes. Wisconsin residents may audit classes for 30 percent of the normal per credit academic fee. The cost for nonresidents is 50 percent of the normal fee. Senior citizens age 60 or older by the first day of class only pay textbook and lab fees for audit credits and laptops.

You may audit classes provided that you apply for admission; the class teacher approves your request to audit the class; you pay any special costs for course instruction other than the normal tuition; and the university will not be required to provide additional classroom or laboratory space for you, and will not realize increased instructional costs.

You will receive only provisional permission to attend classes until course registration is completed. You may not change your admission status and take the course for credit once the class has started. A course which has been audited may not be retaken for credit. You will be subject to Regent, university and student government regulations, just like students who are taking courses for credit.

Note: As with all students attending the university, special students and auditors must provide UW-Stout with accurate information about their personal and educational history. The university policy is that students who intentionally falsify or omit information given as part of their university record will be suspended.

Admission Categories

Admission procedures and standards vary somewhat from group to group. Following is a definition of each category. Find the category that applies to you (definitions below) and select the appropriate tab at the top of this page:

- **Freshmen:** graduates of high schools in the United States and those who will be graduating, who have not attended another university or technical college or school after high school.
- **Transfer students:** applicants who have attended another university, technical or community college beginning the fall semester after high school graduation, and wish to transfer to UW-Stout.
- **Re-entry students:** students who have attended UW-Stout in the past and wish to again take classes at the university.
- **Special students:** students (including those still in high school) who wish to further their education, but are not seeking a degree from UW-Stout.
- **Youth Options/Course Options:** high school students who wish to take university courses under the Youth Options/Course Options program. Students must apply both through their high school and UW-Stout for permission to enroll.
- **International students:** students from countries other than the United States who wish to attend UW-Stout.

Freshmen Students

1. Applications and transcripts may be submitted as early as September 1 for admission the following fall, or early May for the following spring term. UW-Stout enrollments are limited, so it is important that you plan and apply early. Students applying for the Graphic Design and Interactive Media, B.F.A., and the Computer Science, B.S. programs must submit their complete application materials and portfolio by the first Monday in January (check program website for more instruction).
2. You must be a graduate from a recognized high school or equivalent.
3. Admission will be based on multiple criteria including academic rigor, academic GPA, trend in grades, rank in class and ACT/SAT scores. Non-academic factors will also be considered. We conduct a comprehensive review and no single factor will eliminate or guarantee admission. Applicants must complete the high school course requirements as determined by the University of Wisconsin System.
 - a. four credits of English: emphasizing literature, composition, rhetoric and speech.
 - b. three credits of Mathematics: algebra I, geometry and algebra II (Integrated Math 1, 2 and 3). A fourth year is strongly encouraged for majors in science, technology, engineering and mathematics.
 - c. three credits of Natural Science: biology, chemistry and physics.
 - d. three credits of Social Science/History.
 - e. four credits of Electives: chosen from the areas listed above, or foreign language, business, family/consumer education, art and design, and computer applications/programming.
4. Applicants must earn good grades and maintain a high level of achievement in challenging coursework.
5. The pattern of grades over time is important and an increasingly strong academic record can improve the likelihood of admission.
6. Class rank is requested of all applicants (if available) and we consider rank along with other factors.
7. A copy of your ACT score is also required of all applicants to be considered with other factors. We will also accept the SAT.
8. All freshmen must take the ACT or SAT, however, the test is not the only criterion for admission. The admission test

requirement may be waived if you have been out of high school for two or more years, are age 21 or older, or are an international student.

9. In addition to academic achievement, the Admissions Office will consider the following as part of the review of an application: leadership, volunteerism, personal statement, honors and awards, letters of recommendation, socio-economic background, extracurricular activities, diversity of personal background, work experience and military experience.
10. New freshmen are likely to be admitted if they rank in the top 50 percent of their graduating class or have earned a minimum ACT composite score of 22 (or SAT equivalent).
11. The following programs are competitive and require further academic achievement: Applied Mathematics and Computer Science, B.S. ; Applied Science, B.S.; Computer and Electrical Engineering, B.S.; Game Design and Development-Art, B.F.A. Computer Science, B.S.; Graphic Design and Interactive Media, B.F.A. ; Manufacturing Engineering, B.S.; Mechanical Engineering, B.S. ; Packaging, B.S. ; Plastics Engineering, B.S.; and Supply Chain Management, B.S. - the additional criteria for these programs can be found [online](#)

Non-Traditional Admission Requirements

Applicants who have been out of school for two years or more may also be considered for admission if, on the basis of other factors, they appear to have a reasonable probability of success in college. Applicants with a GED or High School Equivalency Diploma will also be considered for admission. It is recommended that applicants have a GED examination average score of 50 or better to be considered for admission to the university.

Transfer Students

For enrollment management purposes the number of transfer students admitted may be controlled. In such cases, institutional policy will determine the criteria by which limitations of access shall be applied, but preference for admission will be given to students transferring from UW Colleges and from other UW institutions where the student's desired major or program is not offered, subject to the limits of UW-Stout's enrollment target.

Transfer applicants must demonstrate that they are prepared to do satisfactory academic work at UW-Stout and that as members of the campus community, they will benefit from and enrich the educational environment and enhance the quality of the institution. Each applicant's file will be given a comprehensive review. Academic information considered will include the student's post-secondary academic records, and may also include high school records, standardized test scores, and/or other relevant academic information.

While academic factors are the most important consideration, other factors may also be considered. These factors include, but are not limited to, student experiences, work experience, leadership qualities, motivation, community service, special talents, status as a non-traditional or returning adult, status as a veteran of the U.S. military, whether the applicant is socio-economically disadvantaged, and whether the applicant is a member of a historically underrepresented racial or ethnic group.

College, school or program needs may set standards for entry to a program in order to achieve enrollment management goals. Such standards will apply equally to continuing students and transfer students.

- The university will need an official transcript from each post-secondary institution you have attended. High school transcripts are also required if, at the point of application, the student has not already earned a bachelor's degree. Applications and transcripts may be submitted as early as September for admission the following fall, and early May for the following spring. Apply early so you can register for classes and complete the financial aid application process in a timely manner. UW-Stout enrollments are limited, so it's important that you plan and apply early.
 - You will be considered as transfer students once you have begun college level coursework beginning with the fall semester after you graduate from high school.
 - A minimum of 12 academic college level (not remedial) transferrable credits is desired to be considered on the basis of their college coursework alone.
 - You are likely to be admitted if you have a cumulative grade point average of 2.0 on a 4.0 scale from the last college/university attended.
 - Students with a cumulative grade point average of less than 2.0 (on a 4.0 scale) from the last college/university attended may be considered for admission on probation.
 - Students with fewer than 30 transferable credits and a cumulative grade point average less than 2.0 (on a 4.0 scale) from the last college/university attended and are currently enrolled at a college or university may be admitted to UW-Stout if they had been admissible at UW-Stout as a new freshman and if they would have been eligible to continue at UW-Stout had they achieved their existing academic record here. These students may be placed on a 'wait list' and reconsidered for admission upon receipt of a new or updated official transcript if space is available.
1. Credit is generally awarded for college level coursework completed at institutions accredited by a regional or national accrediting organization by the Council for Higher Education Accreditation (CHEA). Foreign institutions must be recognized by the Ministry of Education (or equivalent) in that country. Credit earned in institutions of higher education which are not accredited is generally not accepted for transfer. However, credit may be granted for post-secondary work from non-accredited institutions by examination and/or upon departmental evaluation of course syllabi and other program information. Courses must be similar in nature, level and content to a course in our undergraduate curriculum and applicable to one of our academic

programs; this includes courses that are technical, occupational or vocational in nature. Continuing education courses and courses that are remedial are not transferable. Graduate-level courses or courses that are doctrinal in nature may be considered on a case-by-case basis.

- All credit that is transcribed is evaluated, including what is awarded for experiential learning or other forms of prior learning, or relies on the evaluation of responsible third parties. Dual credit courses or programs for high school students are considered equivalent in learning outcomes and levels in achievement to its higher education curriculum by means of receipt of an official college transcript from a regionally accredited institution.
- Credit may be granted for educational accomplishments attained in extra-institutional settings (e.g., military, professional development, work-place training, and others) on the basis of an internally developed assessment such as department exams and portfolio review; internal review of recommendations from organizations such as the American Council on Education's (ACE) Center for Adult Learning and Educational Credentials or the Council for Adult and Experiential Learning (CAEL) or through the National College Credit Recommendation Service (NCCRS). Such credit may be required to appear on an official transcript from said organization awarding/recommending college level credit.
- Students may have the opportunity to demonstrate competence through the use of internally and externally developed tests, portfolio assessment procedures and other competency based alternatives.

Additional Requirements

The following programs are competitive and require further academic achievement: Applied Mathematics and Computer Science, B.S. ; Applied Science, B.S.; Art Education, B.S. ; Computer and Electrical Engineering, B.S.; Dietetics, B.S.; Game Design and Development-Art, B.F.A. ; Computer Science, B.S. ; Manufacturing Engineering, B.S.; Mechanical Engineering, B.S. ; Packaging, B.S.; Plastics Engineering, B.S.; and Supply Chain Management, B.S. - the additional criteria for these programs can be found [online](#).

All students wishing to transfer into a teacher education program must have a 2.75 cumulative grade point average and will be admitted as a Pre-Education student. Subsequent acceptance into a teacher education major and enrollment in professional education coursework will require successful completion of Benchmark I. More information on Benchmark I is available on the [School of Education website](#).

Students applying for Graphic Design and Interactive Media, B.F.A., must submit their complete application materials and portfolio by the second Monday in January.

Articulation Agreements

UW-Stout maintains program articulation agreements with various technical and community colleges in Wisconsin and neighboring states. If you are a student enrolled in an A.A.S. or A.S. program and considering a transfer to UW-Stout, call the Office of Admissions at 715-232-1787 or check the online guide to Transferring to UW-Stout for the most up-to-date listing of program agreements.

Credit for Prior Learning

Credit for prior learning that is internally assessed and transcribed as a course equivalency by another institution will be evaluated for transfer by UW-Stout on the same basis as courses taken at that institution. These credits may include:

- **Retroactive Credit** for foreign language
- **Test-Out Credit** for that institution's actual course (as opposed to elective credit)

For credit earned by any means of any other test such as Advanced Placement, College Level Examination Program (CLEP), and International Baccalaureate (IB), you must provide UW-Stout with an original score report to receive credit pre-determined by departmental review based on score received.

Learn more at the [Prior Learning Assessment](#) website.

Transfer Credit Principles

Credit is generally awarded for college level coursework completed at institutions accredited by a regional or national accrediting organization by the Council for Higher Education (CHEA). Foreign institutions must be recognized by the Ministry of Education (or equivalent) in that country. Credit earned in institutions of higher education which are not accredited is generally not accepted for transfer. However, credit may be granted for post-secondary work from non-accredited institutions by examination and/or upon departmental evaluation of course syllabi and other program information. Courses must be similar in nature, level and content to a course in our undergraduate curriculum and applicable to one of our academic programs. This includes courses that are technical, occupational or vocational in nature. Continuing education courses and courses that are remedial are not transferable. Graduate level courses or courses that are doctrinal in nature may be considered on a case-by-case basis.

Principles of Accommodation

1. Students transferring having already earned a Bachelor's degree, a UW associate degree, an Associate of Arts degree from a Minnesota college or a WTCS liberal arts/collegiate transfer programs associate of arts/associate of science degrees that specifically align with the associate degrees awarded by UW institutions;
2. Transfer of general education/liberal arts requirements in terms of broad academic areas (social sciences, humanities, natural sciences, etc.) as well as specific courses shall be recognized.
 - a. will be considered to have all general education requirements complete with the exception of any specific requirements for their degree program.
 - students with associate degrees from states other than Wisconsin or Minnesota will be considered on a case-by-case basis.
 - b. will be considered to have completed the graduation requirements of Racial and Ethnic Studies and Global Perspective.
 - c. may not have competency requirements or levels of proficiency (e.g., English composition, speech, foreign language, math, quantitative reasoning) satisfied.
3. Credit may be awarded in transfer for courses for which we do not have a comparable department or curricular area, or for which we do not have a direct course equivalent. Where appropriate, these credits should apply toward satisfying general education and other degree requirements. When applying a course toward general education/breadth requirements, it generally applies in the same category as similar courses offered at UW-Stout. However, if the course fulfills a different category at the previous institution and the student requests that the original designation be applied the request should be approved where appropriate.
4. Student course grades may be used as a factor to determine if, and how, transfer credit is applied but the same principles should be applied to both transfer and continuing students.
5. If a student changes his/her academic major or program, all transfer credits may be reevaluated to determine if, and how, they apply to the new major or program.
6. When a student transfers, an evaluation of the transfer work will be done based on official transcript(s) from each institution the student attended. The student is responsible for submitting official transcript(s) from each previously attended institution to UW-Stout for transfer evaluation. The National Student Clearinghouse will be checked to verify attendance at post-secondary institutions previously attended. Failure to list all institutions may result in disciplinary action, rescission of admission, and/or invalidation of credits or degrees earned.
7. Students transferring from within the UW System may be permitted to graduate using the catalog requirements in effect at the time of their matriculation at their first UW institution.
8. Transfer credits will be evaluated by UW-Stout on a course-by-course basis to determine if and whether credits will apply beyond the satisfaction of general education breadth requirements.
9. If you believe that there has been an error or oversight in your transfer credit evaluation, please contact the Transfer Coordinator for assistance. In the event of an unresolved disagreement with the evaluation, the Transfer Coordinator will work with the appropriate academic department chairperson for a second review. You should be prepared to furnish a course syllabus or a letter or description from the previous institution if you wish to appeal the initial evaluation.

UW System Transfer Students

- UW-Stout works with the UW System two-year colleges and their UW Colleges Guaranteed Transfer Program. If you choose to participate in this program, you are guaranteed admission to UW-Stout, provided you meet the provisions of the policy.
- UW System College counselors can help you select course work that will relate to your planned major at UW-Stout. Under UW System policy, you may transfer up to half the number of credits required for graduation in your major at UW-Stout.
- Students may generally transfer up to 72 degree credits earned at non-baccalaureate institutions. Additional credits may be

accepted toward the degree where appropriate with department approval. This does not alter policies concerning credits to be earned in residence

- UW Colleges [advising guides](#) are available to assist in course choices.

Technical and Community College Transfer Students

- If you are transferring from a technical college, UW-Stout credit may be granted in transfer for general education/breadth coursework (i.e. in communications, behavioral sciences, social sciences, mathematics, and natural science) offered within a Wisconsin technical college applied associate degree or college parallel programs, and similar programs from other states.
- Credit may be granted on a course-by-course basis for occupational, technical and vocational coursework leading to an applied associate degree from WTCS programs if there is not an articulation agreement in place. If you're transferring from such a program, UW-Stout may accept some of your technical credits.

Re-entry Students

There are two types of re-entry students: Regular re-entry students are those who have completed no transferable credits from any post-secondary institution since they last attended UW-Stout. Transfer re-entry students are those who have completed transferable credits at a post-secondary institution since they last attended UW-Stout.

Regular re-entry students:

1. Complete the [UW System Application for Admission](#) form and submit it to the Admissions Office. If you left the university in good standing, you may be readmitted as enrollment management goals allow.
2. If you left on academic probation, you may be readmitted on academic probation, if there is room for you in your chosen program.
3. The director of admissions or a designee will review applications from re-entry students who were academically dismissed from the university. Students currently on academic dismissal must submit a letter of appeal along with their application. If the application for readmission is denied, the decision may be appealed to the Dean of Students Office.

Transfer re-entry students:

1. Complete the [UW System Application for Admission](#) and submit it to the Admissions Office. If you left the university in good standing or on probation, you will be readmitted in the same status, provided you are eligible to return to the institution you last attended, and provided.
2. Submit official transcripts from each institution you attended since your last attendance at UW-Stout.
3. If you left UW-Stout because of academic dismissal, you may be readmitted on probation. Students currently on academic dismissal must submit a letter of appeal long with their application. Decisions will be made on a case by case basis at the discretion of the director of admissions and considering enrollment targets. Students are required to submit a letter of appeal.
4. If your transfer grade point average is less than 2.20, you may be denied re-admittance to UW-Stout. Denial decisions may be appealed to the Dean of Students Office.

Special Students

This diverse group of students may include mid-career professionals seeking certification for a changing technology, community members seeking courses for personal fulfillment, high school students taking classes not offered at a high school, guests and auditors. Special students may be admitted as enrollment management goals permit.

1. To be admitted as a special student, simply indicate that status on the [application for admission](#). You do not need to indicate a major, submit transcripts, take the ACT, or pay the application fee. High school students admitted as special students must gain the approval of their parents and their high school, and submit a high school transcript.
2. As a special student, you must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You may request to change your status to degree-seeking student after you have completed 12 credits. You may accumulate a maximum of 29 credits as a special student.
5. To change to become a degree-seeking student, you will have to complete the application process required of new students by completing the UW System Application for Admission - submitting the appropriate information as New Freshman or Transfer Student as required.
6. High school students who wish to take classes at the university must rank in the top 50 percent of their high school class or have an ACT composite score of 22 or better, or SAT equivalent.

Youth Options/Course Options Program

The Youth Options/Course Options program serves high school students who wish to take classes not offered at a high school.

1. To be admitted as a Youth Options/Course Options student, simply indicate that status on the [application for admission](#). You do not need to indicate a major, take the ACT or SAT or pay the application fee. You must gain the approval of your parents and your high school.
2. You must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You must rank in the top 50 percent of your high school class or have an ACT composite score of 22 or better, or SAT equivalent.

International Students

1. All potential international students should have better than average academic records.
2. All applicants must present the university with official copies of their academic record.

First-year students must send certified copies of certificates, diplomas or degrees earned. These official records must be equal to a United States high school (secondary school) graduation for consideration.

Transfer students must submit certified records of their post-secondary academic work. The records must show the courses the students have taken and the grades they have earned. The university will not grant credit for courses unless there is evidence that the students have satisfactorily completed them.

Credit may be granted to international students if the institution they attended is listed in either the International Handbook of Universities or the Commonwealth Universities Handbook. Credit from institutions not listed in these publications may be transferred only upon the recommendation of the appropriate department.

3. The university will deny admission to students who submit records with any alterations or irregularities.
4. Additional records presented after the student has enrolled will not be considered for transfer.
5. Students from non-English speaking countries are required to take the Test of English as a Foreign Language (TOEFL). Applicants will need a minimum score of 70 iBT, 500 paper based (or 173 score on computer-based test) to enroll in full-time study.

For information on taking the TOEFL, write to:

TOEFL Services - Educational Testing Service
PO Box 6151
Princeton, NJ, USA 08541-6151 USA

The TOEFL will be waived if students have completed UW-Stout's ESLI program or an ESL program from an accredited college or university or other program approved by UW-Stout.

6. All international students must show evidence that they have adequate finances to undertake a degree program at UW-Stout.
7. As a condition of admission, international students whose sponsors have a history of delinquency in payment of fees must place on deposit an amount approximately equal to the institution's non-resident tuition and fees for a 12-month period, which includes two semesters and an eight-week summer term. Applicants who must meet this requirement will be notified when the university receives their applications.
8. Questions about this policy may be addressed to the [Office of Student Business Services](#) or to the [Office of International Education](#).

Scholastic Standards

Student Handbook

The [One Stop Student Resource](#) website serves as UW-Stout's Student Handbook. The site is a portal for information on registration, finances, academic planning and other resources. It includes a listing of important dates and quick links for important student logins, calendars and technical assistance.

Semester Credit

UW-Stout defines a credit hour as an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates: [1] At least 750 minutes of classroom or direct faculty instruction and a minimum of 1,500 minutes of out-of-class student work for one semester credit hour, or the equivalent amount of work over a different amount of time (e.g. compressed courses); or [2] At least an equivalent amount of work as required in part one [1] of this definition for other academic activities as established by UW-Stout, including distance education, online, hybrid, or other indirect faculty instruction, laboratory work, internships, co-op experiences, studio work, and other academic work leading to the award of credit hours. This definition of the semester credit hour applies to all academic credit bearing activities at all levels (graduate and undergraduate). In order to receive a degree, you must not only gain the required number of credits in the program you are pursuing, but also must attain a certain standard of scholarship. (See also "[Suspension and Probation](#).")

Credit by Examination

You may be able to receive credit by demonstrating your competence through examination. External examinations include the College Level Examination Program (CLEP) and the Proficiency Examination Program (PEP). For further information on external examinations, contact the Counseling Center.

You may also receive credit through the "test out" procedures developed by various university academic departments. For more information, contact the appropriate school or department office.

If you attempt to test out of a course, you will be charged a testing fee regardless if credit is earned or not.

Credit Registration and Overload Policy

Courses are designed and graduation requirements are established so that a normal semester credit load for undergraduates is 16 to 18 credits. Early registration will be limited to 18 credits. Additional credits may be added at the beginning of the term. You should register for only those classes which you fully intend to complete. If you register for more than 20 credits, you must have an "Overload Permit" signed by your program director on file with the registrar at the time you go over 20 credits.

You may not register for classes that conflict with other classes on your schedule. Eighteen credits is considered a maximum load for undergraduate students with less than 2.25 cumulative grade point average. Enrollment for any additional credits requires consultation with your program director or the coordinator of undeclared/undecided academic advisement if you are not enrolled in a degree program.

The Registration and Records Office is responsible for the application and interpretations of this policy. You will be notified of non-compliance and any subsequent withdrawals made to bring you into compliance should you not answer the notification.

Retroactive Credit for Foreign Language

Students who earn a grade of "B" (3.0) or better in foreign language courses would also receive credit for the lower level foreign language course or courses associated with that course.

Math and English Placement

Remedial Placement Students who are not transferring credits in math or English must take the regional math and English placement tests. These are given around the state during the spring semester. Make-up tests are given in the summer at announced times. Students who place into remedial math or English must successfully complete the course by the end of 30 credits or they will not be permitted to register.

English Placement Students who perform well on the placement tests may be placed in an advanced English class (ENGL-111 Honors Composition 1).

Advanced Placement UW-Stout grants credit for scores of three or greater on the College Board Advanced Placement test. In addition, students can receive credit for a specific course. For more information about advanced placement examinations, call the Office of Admissions at 715-232-1411.

Add/Drop Policy

Even with careful planning, you may find you have to add or drop a class after the semester begins. To comply with accreditation and financial aid regulations, UW-Stout has a published add/drop policy.

The following serves as UW-Stout's procedures for adding or dropping classes within the guidelines of the policy:

Students are expected to complete courses for which they register. Students who wish to adjust their class schedules may add or drop classes before the end of the second week of semester classes and before the end of the first week of quarter classes. Drops made during the first two weeks of a semester course or the first week of a quarter course will not appear on a student's transcript. If students deem it necessary to reduce their program after the normal add/drop period, they should do so as early as possible.

"Withdrawal" or "W" is a drop grade given to students who drop a course after the Drop Retain Record Date given in Access Stout and before the Drop with Penalty Date. The **Drop Retain Record Date** means that a class dropped on or before this date will be retained on your academic record with a status of dropped. After this date a drop grade of W will be assigned to the class.

"WU" or "Withdrawal Unsatisfactory" is a drop grade given to students who drop a course after the **Drop with Penalty Date** but before the **Drop with Greater Penalty Date** (class end date) given in Access Stout, which is allowed only when there are extenuating circumstances. The **Drop with Penalty** means a class dropped after this date will appear on your transcript and a drop grade of WU will be assigned to the class.

Drop with Greater Penalty Date is the last date to drop a class for the semester. After this date classes can no longer be dropped. For help with finding these dates, use the step by step guide to view your course deadlines.

These drop grades are issued after the drop is processed. The drop grade is posted on the student transcript, however, it does not affect their GPA.

Repeating Courses

Undergraduate Students

Typically, with the exception of internships and co-ops, courses in which you earn a C- or higher are not repeatable for credit, unless required by major. If you earned a C, C+, or B and wish to repeat a course, please obtain a course repeat card, have it signed by your program director, and return it to the Registration and Records office before the fifth day of class. If you earned a B+ or higher in a course you cannot, under any circumstances, repeat the course.

When a course is repeated, the highest grade is used when computing the grade point average. All grades remain on the transcript.

Grade Point and Symbols

Grade	Value	Description
A	4.00	Exceptional achievement
A-	3.67	
B+	3.33	
B	3.00	
B-	2.67	
C+	2.33	Satisfactory work
C	2.00	
C-	1.67	
D+	1.33	
D	1.00	Marginal performance, minimal passing level. Work at a level unacceptable for application to a graduate degree or certification program at UW-Stout.
D-	0.67	
F	0.00	Failure through coursework
		Failure by never attending a course (no participation in the course)
FN	0.00	Participation is defined as attending a face-to-face course, participating in an online discussion board, submitting assignments, or taking quizzes or exams. Simply accessing the learning management system (e.g. Canvas) without participating in some way does not meet this definition.
		Failure by stop attending a course (ceased participating after a certain date, and did not have a passing grade in the course)
FS	0.00	Participation is defined as attending a face-to-face course, participating in an online discussion board, submitting assignments, or taking quizzes or exams. Simply accessing the learning management system (e.g. Canvas) without participating in

some way does not meet this definition.

O		Outstanding (no grade points)
S		Satisfactory (no grade points)
U		Unsatisfactory (no grade points)
		"Withdrawal" or "W" is a drop grade given to students who drop a course after the Drop Retain Record Date given in Access Stout and before the Drop with Penalty date. The Drop Retain Record Date means that a class dropped on or before this date will be retained on your academic record with a status of dropped. After this date a drop grade of W will be assigned to the class. Find your course deadlines on Access Stout. A W will appear on a students transcript but will not affect their GPA.
W	0.00	
		Incomplete
I		Credit (no grade points)
CR		In Progress (approved courses only)
IP		Audit - no credit awarded
AU		No Credit
NC	0.00	"WU" or "Withdrawal Unsatisfactory" is a drop grade given to students who drop a course after the Drop with Penalty date but before the Drop with Greater Penalty date(class end date) given in Access Stout, which is allowed only when there are extenuating circumstances. The Drop with Penalty means a class dropped after this date will appear on your transcript and a drop grade of WU will be assigned to the class. A WU will appear on a students transcript but will not affect their GPA.
WU	0.00	
WD		= Complete term withdrawal from the university

Accommodating Religious Beliefs

UW-Stout honors individuals' religious beliefs. If scheduling of tests or other mandatory activities interferes with students' religious observances, students may request alternative arrangements.

Within the first three weeks of class, students must notify their instructors if there will be days or dates when their religious activities will prevent them from participating in academic events. For summer sessions or short courses, students must notify their instructors within the first week of class.

The university accepts, at face value, the sincerity of students' religious beliefs. Information students provide about their religion will be kept confidential.

Once instructors know of students' needs, they will be able to schedule make-up examinations or other course requirements, before or after the regularly scheduled examination or other requirement.

If students believe their religious beliefs have not been accommodated, they may file a grievance. For more information about the policy or the grievance procedure, contact the Dean of Students Office at extension 1181.

Procedure for Withdrawal from UW-Stout

A withdrawal is completely dropping all of your registered classes for a given term. Withdrawal should be undertaken only after serious consideration. If you intend to withdraw from the university, you can process the request by logging into your Student Center in Access Stout and selecting Term Withdrawal from the drop-down menu . If you fail to withdraw officially from the university, you will receive a grade of "F" in all your courses. (See the grading policy on the [Registration and Records](#) website.)

Suspension and Probation

Grade point requirements for graduation vary by major. Minimum acceptable standards for retention are defined as follows:

Good Academic Standing

A cumulative grade point average (GPA) of 2.000 or greater. Selected majors require a cumulative GPA greater than 2.0 for graduation.

Probation

Academic Probation

A temporary status due to low academic grades. Improvement in academic grades is needed for continued enrollment in the university. A student is placed on probation due to one of the following conditions:

Cumulative GPA is lower than 2.000

Conditionally admitted as a transfer or new freshman

Readmitted after leaving UW-Stout while on probation or when dismissed for academic reasons.

Dismissal

Academic Dismissal

Termination of enrollment in the University of Wisconsin-Stout due to one of the following conditions:

Cumulative GPA is less than 2.000 at the end of two successive semesters.

If a student earns a 2.500 or higher GPA with 12 or more earned credits in the 2nd semester of Academic Probation, but the cumulative GPA is below 2.000 for 2 successive semesters, the student will be granted an additional or third semester on Academic Probation.

GPA for one semester is less than 1.000. Academic Probation status is not a prerequisite for dismissal due to this low GPA.

Readmission Application Timeline Following Dismissal

One semester must lapse if academically dismissed.

Two years must lapse if academically dismissed, readmitted and failed a second time to earn the required grade point average.

Appeal Process to Dismissal

If circumstances were so unusual and out-of-the ordinary that academic performance was significantly and temporarily impacted, the dismissal decision maybe appealed. The appeal process is on-line and handled by the Dean of Students Office.

Requirements for Graduation

The semester credit hours required for graduation are stated under the program of study for each major. You are responsible for knowing and meeting the requirements for graduation. To fill the minimum residence requirement, you must earn 32 semester hours of credit in residence at UW-Stout. One semester before graduation, you must apply to graduate via Access Stout.

Graduating with Honors

Undergraduate honors are based upon scholarship. The following designations are used:

Cum Laude » 3.5 - 3.699 grade point average

Magna Cum Laude » 3.7 - 3.899 grade point average

Summa Cum Laude » 3.9 - 4.00 grade point average

A minimum cumulative grade point average of 3.5 must have been earned in all credits from all institutions attended.

For commencement purposes, the cumulative grade point average earned at the end of the semester preceding the commencement ceremony will determine recognition at the commencement ceremony. However, honors will be officially determined when all coursework has been completed. Honors will be listed in the student's transcript and will appear on the diploma.

Chancellor's Award

The Chancellor's Award recognizes undergraduate students who receive a semester grade point average of 3.5 or greater on 12 or more academic, non-remedial credits. A special Four Star Recognition Award will be given to undergraduate students who attain a 4.0 average.

Academic Forgiveness

Academic forgiveness means that grades earned during a prior enrollment period at the University of Wisconsin-Stout will not be used in the computation of a student's undergraduate cumulative grade point average. However, such grades will continue to appear on the student's official transcript. A returning student is eligible for academic forgiveness when all the following criteria are met:

1. At least five continuous years have elapsed since the last term of enrollment at UW-Stout or any other institution of higher learning. (Exception: Courses that must be completed as a precondition for re-entry.)
2. The student has not earned a baccalaureate degree.
3. The cumulative grade point average earned at UW-Stout was below a 2.0 at the time of re-entry.

The program director should help a student who meets the criteria determine whether repeating course work or seeking academic forgiveness is the better alternative. The student's request for academic forgiveness must be approved by the student's program director, the dean of the college, and the associate vice chancellor. The approved request will be forwarded to the registrar who will record academic forgiveness on the transcript. All courses with a credit worthy grade (i.e., those with grades of "O," "S," "CR," and "D-" or better), completed five or more years before re-entry, may be used to satisfy degree requirements when academic forgiveness is granted. These grades are not included in the student's cumulative grade point average. However, program requirements must be followed when a minimum course grade is specified. The student's new cumulative grade point average will be based only on the grade points earned after re-entry to UW-Stout. A student may be granted academic forgiveness only once.

Students who are granted academic forgiveness are eligible to graduate with academic honors (i.e., cum laude, magna cum laude, and summa cum laude); however, the forgiven coursework will be used in the grade point average (GPA) calculation for academic honors.

Tuition and Fees

Fee Payment

All students are required to complete a Fee Payment Agreement. All Wisconsin residents are also required to provide information on their marital status.

You are expected to pay all charges according to the Fee Payment Agreement. For the fall and spring terms, UW-Stout offers an opportunity to pay fees in two established installments. This program requires a 10 percent down payment within the 14th day of the term and the remainder within 30 days. For the Summer Session, 100 percent is due by the third Wednesday in July. For WinTerM, 100 percent is due by the second Wednesday in January.

The Fee Payment Agreement application is supplied online via Access Stout. Learn how to complete the agreement online at the Student Business Services website.

Semester Costs

Undergraduate fees are set by the Board of Regents of the University of Wisconsin System and are subject to change. These fees incorporate tuition, segregated, textbook, and eStout. However, the schedule does not include special course fees charged in some courses. Students in the eStout program pay a per credit rate for tuition. All tuition and fees, room and food rates, and other charges are subject to change without notice. Tuition and fee information is online at the Student Business Services website.

Minnesota Students

If you are a Minnesota resident and a new student at UW-Stout, you must submit a reciprocity application to Minnesota. Approval takes up to four weeks. If approved for reciprocity, you will be charged at the Minnesota resident tuition rate. The State of Minnesota has indicated that "reciprocity benefits will not be granted retroactively" and that "each student is responsible for the application process." Therefore, each new student must submit a correct application before the last day of the semester. Apply early to avoid complications. Students that have been in attendance at UW-Stout and have earned credits during the previous academic year will automatically have reciprocity renewed by the State of Minnesota. Reciprocity applications are available online at www.mheso.state.mn.us.

Auditing Classes

Wisconsin residents under age 60 may audit classes for 30 percent of the normal per credit academic fee. The normal per credit

academic fee is waived for Wisconsin residents age 60 or older by the first day of class. The cost for non-residents is 50 percent of the normal per credit academic fee. The cost for Minnesota Reciprocity students is 30 percent of the normal per credit Minnesota Reciprocity fee.

Refund on Fees

Withdrawal from semester courses generates refunds based on the refund schedule set by the Board of Regents of the University of Wisconsin System. The amount of a refund is determined by the session length of a course and the date of the withdrawal or drop. The refund schedule can be found on the Student Business Services website. Refunds for room and food service charges are based on the date of withdrawal.

Graduation Fee

Upon completion of 90 credits, student accounts will be charged a one time, non-refundable \$100 graduation fee. This fee pays for various costs, including final degree audit, diploma and cover, as well as other costs and accessories associated with the commencement exercises. Candidates will be assessed the fee regardless of commencement ceremony participation. The fee does not cover the cost of the cap and gown, which are available from the University Bookstore.

Unpaid Obligations

Failure to meet financial obligations is a serious matter. Therefore, if you owe money to the university and fail to meet that obligation, financial penalties will be assessed and a hold will be placed on your account. You will not be allowed to register or receive transcripts until your delinquent accounts are paid in full.

Withdrawal Fee

You will be charged a fee of \$50 for a first-week withdrawal, and \$100 for any withdrawal during the second week.

Financial Assistance

- [Financial Aid Office](#)
- [Applying For Aid](#)
- [Receiving Aid](#)
- [Basic Types of Financial Aid](#)
- [Financial Aid Policies](#)

Financial Aid Office

The Financial Aid Office provides year round assistance to students and their families who are seeking resources to cover educational expenses.

Staff members will help answer any questions about the application process, what types of aid may be available, and how to maintain eligibility so you can make the best choices for your educational funding.

Applying For Aid

Complete the Free Application for Federal Student Aid (FAFSA) at fafsa.gov every year to determine your eligibility for aid. Be sure to check with the Financial Aid Office or Self-Service in Access Stout to ensure you have completed all the necessary materials.

Receiving Aid

After your FAFSA has been reviewed and processed by the Financial Aid Office, you will receive an email notifying that your award is available for you to view in Access Stout.

Basic Types of Financial Aid

Grants

Grants are funds provided by federal, state or private sources that do not need to be repaid, provided that the enrollment period is completed. Grants are awarded based on a financial need and federal guidelines. The Free Application for Federal Student Aid (FAFSA) must be completed to be considered for all federal and state grants unless otherwise stated.

Scholarships

Scholarships vary in amount and criteria for award. Scholarships may be based on academic performance, financial need, program of study, year in school, or many other factors. Students are generally responsible for their application process.

Stout University Foundation Scholarships

Stout Foundation scholarships are awarded based on an overall student profile, including participation in academic organizations and other groups, students' interest areas or financial need. Awards range from \$250 to \$8,500. Scholarship applications are due the first Monday of February. The following list describes specific scholarship opportunities for freshmen. A [full list of scholarships](#) and an application are available online.

Other Scholarship Opportunities

By investing a little time and energy, you can conduct your own scholarship search. The Financial Aid Office provides information on its [website](#) to help get you started.

Federal Work Study

The Federal Work Study Program provides jobs for undergraduate and graduate students with financial need, allowing them to earn money to help pay educational expenses. Please note that these funds are typically used to pay for smaller expenses throughout the semester and will not be available to pay for tuition, housing and other charges due at the beginning of each term.

The maximum amount a student can earn while a work study student will be limited to the student's work study award. The awards are based on the student's need, timing of application, FAFSA information and fund limits.

Loans

Loans are financial assistance that must be repaid. There are education loans available through the federal government and through private lenders. Each loan program has specific eligibility criteria, repayment, cancellation, and deferment conditions. The Free Application for Federal Student Aid (FAFSA) must be completed to be considered for all federal education loans.

In Access Stout you will need to respond to the financial aid awards given to you. You will accept or decline federal work study and loans. Grants will automatically be accepted for you.

If you accepted any loans, you will need to complete loan processing. You will have checklist items on your "To Do List" in Access Stout that will indicate you must complete Loan Entrance Counseling and sign a Master Promissory Note (MPN).

Financial Aid Policies

Students' Rights and Responsibilities

Students have a right to know:

- What financial aid is available, including federal, state and institutional aid
- That the information they give to the Financial Aid Office will be treated confidentially

- The cost of attendance and the policies for students who withdraw
- How their financial aid budget and financial need was determined (including how other resources affect their need)
- How their aid was calculated and awarded
- What types of aid they were awarded and the criteria used to award each financial aid program
- Which financial aid programs must be repaid and which do not
- They can have their financial need reviewed through the Re-evaluation process if their family circumstances have changed
- How satisfactory academic progress is determined and how it might affect their financial aid eligibility

Students have the responsibility to:

- Provide the Financial Aid Office with accurate information in a timely manner
- Provide any additional information requested for the processing of their financial aid file (such as Federal tax returns, verification worksheets, or other documentation)
- Read and understand all forms that they are asked to sign and keep a copy of such forms for their record
- Make satisfactory academic progress as determined by the Financial Aid Office
- Inform the Financial Aid Office of any additional financial aid they receive such as scholarships, outside grants, assistantship or other educational/tuition assistance
- Repay all loans according to the payment schedule. Students who default on a loan are not eligible for additional financial aid
- Perform their Federal Work-Study job in a satisfactory manner
- Know and comply with any refund procedures
- Inform the Financial Aid Office if their personal information changes such as:
 - Their permanent or local address
 - Their residency status
 - Their enrollment status (credit load)
 - Their classification (Undergraduate, graduate, second degree, special student)
 - Change in governmental benefits (veterans)

Withdrawal and Return to Title IV (R2t4) Policy

Federal Title IV funds are awarded to a student under the assumption that he/she will attend school for the entire period for which the assistance is awarded. When a student withdraws from all of his/her courses, for any reason including medical withdrawals, he/she may no longer be eligible for the full amount of Title IV funds that he/she was originally scheduled to receive.

A student that withdraws from all courses prior to completing more than 60 percent of a semester may be required to repay a portion of the federal financial aid received for that term. A pro rata schedule is used to determine the amount of federal student aid funds the student will have earned at the time of the withdrawal.

The return of funds is based upon the concept that students earn their financial aid in proportion to the amount of time in which they are enrolled. Under this reasoning, a student who withdraws in the second week of classes has earned less of his/her financial aid than a student who withdraws in the seventh week. Once 60 percent of the semester is completed, a student is considered to have earned all of his financial aid and will not be required to return any funds.

The Student Business Services Office, in accordance with 34CFR Sec. 668.22 calculates the Return of Title IV Funds for any student receiving Title IV Aid and subsequently withdraws before the end of the enrollment period (i.e. term).

Official Withdrawal

Students intending to officially withdraw should contact the Registration and Records Office. Students planning to enroll for the next semester will need to contact the Financial Aid Office to re-apply for financial aid for the following semester.

The official withdrawal date used to determine the return of funds calculation is maintained in the Registration and Records Office as well as within the PeopleSoft system. The "Student's Withdrawal Date" will be the date the student provides official notification of their intent to withdraw. The "Date of the Institution's Determination that the Student has Withdrawn" will be the date the Registration and Records office posts at the top of each Withdrawal list.

Unofficial Withdrawal

The Financial Aid Office will assume that students that fail to earn a single grade in any of their classes for a term to have unofficially withdrawn. Students that receive all grades of "FS" "FN", "WU", "WS" or a combination will be considered to have unofficially withdrawn from the University. If all grades are "FN" (never attended) the student is ineligible for Title IV aid and all aid will be returned. The Financial Aid Office will process an R2T4 using the 50 percent point as the student's "Withdrawal Date".

The university has initiated a grading policy that will be used to distinguish between a student who earned a grade of "F" (awarded to students who complete the course but fail to achieve the course objectives) or a grade of "FS" (awarded to students who stopped

attending) or "FN" (awarded to students who never attended). A student that earns at least one grade including an "F" grade will be considered to have completed the term and no R2T4 calculation would be required or performed.

Satisfactory Academic Progress (SAP)

As a financial aid recipient, you are responsible to know there are limits to your eligibility to receive financial aid. You are reviewed for satisfactory academic progress in three areas:

- Minimum grade point average
- Minimum credits completed (67 percent rule)
- Maximum time frame

In order to maintain financial aid eligibility students who fail any of the tests above will not be eligible for federal or state financial aid. This includes all federal and state grants, federal student loans and the federal work-study program.

Standard for Grade Point Average

Undergraduate students (including transfer students and those seeking a second degree) are required to maintain at least a cumulative 2.0 grade point average (GPA) throughout their enrollment until degree completion.

Standard for Minimum Credits Completed

You must successfully complete at least 67 percent of all the credits you attempt to remain eligible for financial aid. To determine if you are meeting the requirement, divide your cumulative completed credits by your cumulative attempted credits. For example, if you enrolled in 15 credits at the beginning of your first semester and only successfully complete nine of those credits (9 divided by 15 is 60 percent), you would not meet the SAP standards. Your "attempted credits" is the number of credits you were enrolled in on the tenth day of class each semester. In reviewing for minimum credits completed, a grade of "D-" or better is considered successful completion. Incomplete grades ("I" and "IP"), failing grades ("F," "FN" and "FS"), withdrawn grades ("W," "WS" and "WU"), unreported grades, "no credit," or "audit" grades are counted as attempted credits, but not as completed credits.

Standard for Maximum Time Frame

You are eligible for financial aid up to 150 percent of the minimum credit requirement of your program. If you fail to complete your undergraduate degree within the 150 percent maximum time frame, you will not be eligible for further financial aid. For example, if your undergraduate program requires 120 credits, you would no longer be eligible for financial aid when you attempt more than 180 credits (120 x 150 percent = 180). "Attempted credits" are defined above. Credits transferred in are counted. If you add additional majors or minors than what is required for your degree or if you change your major, you are still held to the 150 percent maximum for financial aid eligibility. Transfer students who transfer in with 90 or more credits should consult with a financial aid counselor to determine future eligibility for financial aid. Special students (those who already have a bachelor's degree and are seeking a second degree) are eligible for financial aid for a maximum of 75 credits. If you fall in this category, you should confirm your aid eligibility with a Financial Aid Counselor.

UW System Code of Conduct

UW-Stout participates in federal student loan programs. We also certify private loans for students who need to borrow beyond the federal loan limits. We abide by the UW Regent Code of Conduct related to student loan borrowing.

Services for Students

Athletics

The intercollegiate athletic program emphasizes educational values for the participants and provides a laboratory for students in the coaching certification program. UW-Stout is a member of the Wisconsin Intercollegiate Athletic Conference (WIAC) and is affiliated with the National Collegiate Athletic Association-Division III. The university sponsors nine women's and seven men's varsity teams. Women's teams include basketball, cross country, golf, gymnastics, soccer, softball, tennis, track and field, and volleyball. Men's teams are baseball, basketball, cross country, football, golf, hockey, and track and field. More information is available at [UW-Stout Athletics](#) website.

International Education

UW-Stout is committed to international education and the exchange of ideas and cultures among students, faculty and the community. The university welcomes international students and encourages study abroad. Many of Stout's majors lead to careers that require an understanding of people and cultures in the global community.

Students from more than 40 nations attend UW-Stout each year. More than half of the international student body at UW-Stout pursues graduate degrees.

Office of International Education International programs and student activities are coordinated through the Office of International Education (715-232-2132). This office coordinates all overseas involvement and provides overseas opportunities for students, faculty and staff. Learn more at the [Office of International Education](#) website.

International Student Services

The special needs of international students are met through professional and referral services provided by the Office of International Education. These services include confidential personal counseling on immigration matters, financial matters, academic questions, social customs and personal concerns. Other services that promote cross-cultural understanding include new student orientation, problem solving and liaison activities in the university and Menomonie area community. Learn more at the [International Student Services](#) website.

University Library

The University Library has a collection of more than a million items, including online full-text resources, videos, periodicals, and books. Access is available to more than 35 million items through Resource Sharing from other UW libraries.

The library has specialized equipment for printing, scanning, and e-portfolio work. Equipment is available for checkout including digital cameras, tripods, microphones, digital projectors, laptop chargers, and a variety of other electronic equipment and cords. More than 40 desktop computers are on hand in the Library. The library provides an inviting atmosphere for study and contemplation. A food cart is available in the lobby during the academic year. Lounge furniture, quiet study spaces and group study rooms with large display screens are available throughout the library. The library is open 94 hours per week during the semesters. Staff are available to assist users in their research and information needs.

The Library also hosts the GIS lab and the Gaming and Digital Innovation Lab for campus.

More information is available on the [University Library](#) website.

Off-Campus Housing

The Stout Student Association provides information about available off-campus housing on its [website](#). Other sources of local housing information are the Stoutonia and the Dunn County News. If you plan to live off campus, you may find it useful to visit Menomonie to secure the type of housing you desire.

Residence Halls

Residence hall living is a meaningful part of your life at UW-Stout. With the help of a professionally trained staff, students achieve their goals through a variety of social, educational and recreational activities. Approximately 2,700 students live on campus. UW System policy requires freshmen and sophomores (60 credits or fewer who are not veterans, married or living with parents or guardian) to live in university residence halls. This policy is strictly enforced. Residence hall information will be sent you shortly after being admitted. We require a \$125 prepayment with each lease/contract. The lease/contract is valid for the entire academic year.

UW-Stout offers a First Year Experience program where all freshmen live together in the South campus residence halls. Upperclass students live primarily on North campus, including the suite-style Red Cedar Hall. Each suite consists of four bedrooms, a bathroom, and a living area and kitchenette. The building is fully air conditioned and has two elevators.

Each room is carpeted and furnished with a microwave oven, refrigerator, two single beds, dressers, bookcases, desks and chairs. Network access is available in all rooms. Cable TV is provided as well as local phone service - you must provide your own phone. Basements provide access to computer laboratories (with printers and scanners), laundry rooms, television areas, kitchens, study areas, game rooms and exercise rooms. The reception desks offer many services and a variety of equipment including tools, vacuum cleaners; cooking equipment, DVDs, and sports equipment.

More information, including current rates is available at the [University Housing](#) website. Additional questions may be directed to the University Housing office at 715-232-1121, or by e-mail at housing@uwstout.edu.

Students who live on campus during the academic year choose a dining service plan from a variety of options. For more information, go to [University Dining Services](#).

Learning and Information Technology Services

Learning and Information Technology (LIT) is a support organization dedicated to providing efficient and effective state-of-the-art learning and information technology solutions and services to students, faculty, and staff for instruction, administration, and public service in support of the University's mission. Learn more about services available to students at the [Learning and Information Technology Services](#) website.

Student Services

Student Services is a network of programs that provide services designed to meet student needs in academic success, career development and personal skill building. Contact the Office of the Dean of Students at 130 Bowman Hall or call 715-232-1181 for more information about any of these programs.

Advisement Center

The Advisement Center is home to UW-Stout's First-Year Advisers and the following services: first-year advising, career exploration, change of major, exit interviews, new student orientation and registration, academic skills program, and the Youth Options Program.

In addition, the Advisement Center serves the undergraduate student population as a drop-in center for general academic assistance and career information. The center is open from 8:00 a.m. to 4:30 p.m., Monday through Friday. Appointments are appreciated, however walk-ins are welcome. For more information, call 715-232-1465, or visit 11 Bowman Hall, or go to the [Advisement Center](#) website.

- **First-Year Advising** As part of UW-Stout's extended orientation for new students; first-year students are assigned an adviser who will work closely with them throughout their first year at the university. This adviser provides guidance in academic, career and transition issues that typically occur during the first year of college. Freshmen will meet with their first-year advisers multiple times during the school year; receive timely e-mails reminding them of important dates for adding/dropping classes, fee payments, Advisement Day, and Evaluation Week and learn about campus resources and policies. Freshmen transition to their academic program adviser at spring semester's Advisement Day.
- **Career Exploration Services** offers a collection of computerized and printed information on jobs, career outlook data, college catalogs and graduate school information. Students may take interest and personality assessments and review them with a counselor to assist in deciding career direction and goals. For more information, call 715-232-5306 or go to the [Career Exploration Services](#) website.
- **New Student Orientation/Registration** aids students in their transition to the university and initial course registration. Programming includes advisement, course registration, academic expectations and an introduction to university resources, services, social and cultural opportunities. Parents are welcome and encouraged to attend parts of the registration/orientation programs. Each classification of new students (first time freshmen, transfer student, and Youth Options participant) has different programming options, dates and requirements. For more information, call 715-232-1465 or visit 11 Bowman Hall or go to the [New Student Orientation/Registration](#) website.

Career Services

Career Services offers a variety of career search services to students and alumni. Counselors can help you plan for future employment opportunities. Services include online resources, career conferences, campus recruitment, teacher fairs, workshops and one-on-one counseling. Employment assistance to graduates and co-ops are a major emphasis at UW-Stout. The office maintains statistical reports on the employment of graduates and cooperative education employment activities.

More information is available from the Career Services Office, 103 Administration Building, 715-232-1601 or on the [Career Services](#) website.

The Counseling Center

The Counseling Center offers group, individual and couple's counseling; educational programs and workshops; self-help resources; and consultation to the campus community-with a mission of contributing to the intellectual, emotional and relational health and development of students. Counseling services are free of charge to students and all counseling records are kept strictly confidential and are not part of the university records.

For more information call 715-232-2468, visit the [Counseling Center](#) website, or stop by our office in 410 Bowman Hall.

Additional services include testing and Alcohol and Other Drug Education Program.

- **Testing Services** Educational testing services are also offered by the center, including UW Placement tests, CLEP exams, and others. Learn more online at the [Testing Services](#) website.
- **Alcohol and Other Drug Education Program (AODEP)** The AODEP helps people develop mature, responsible and legal alcohol and other drug behaviors and attitudes. The AODEP provides a variety of services related to alcohol and other drug prevention, intervention, assessment and counseling. Learn more online at the [Alcohol and Other Drug Information](#) website.

Dean of Students Office

Students who have questions about or concerns about policies, including academic and non-academic misconduct policies, student rights and responsibilities, support services, and adjusting to life at UW-Stout are invited to bring their questions and concerns to the Dean of Students Office. This office serves an ombudsman role, assisting students to find solutions to their concerns. Appeals of academic dismissal, requests for medical withdrawals and reports of extended absences should be initiated in this office, as well. Parents, staff and faculty, and members of the public are invited to contact this office for information on campus policies, and to report student issues or incidents they feel should be brought to the attention of the campus.

For more information visit 130 Bowman Hall or online at [Dean of Students Office](#) website.

Disability Services

UW-Stout recognizes disability as an aspect of diversity. The Disability Services office serves as a resource to students, faculty, and staff and provides support to the entire campus. The mission of the office is to ensure that students with disabilities have equal access and opportunities to all programs and services on campus. If students with disabilities experience, or anticipate experiencing, barriers in the learning environment, they are encouraged to contact the Disability Services office. All means of access/accommodations are individualized.

For more information, call 715-232-2995, visit 206 Bowman Hall or go to the [Disability Services](#) website.

Educational Talent Search

Educational Talent Search is a federally funded TRIO program. The program serves young people in grades 6-12, who may be from first generation and/or low-income families, to finish high school, enter post-secondary education and successfully graduate. In addition to counseling, participants receive information about college admission requirements, scholarships and various student financial aid programs. This early intervention program helps young people to better understand their educational opportunities and options.

For more information, call 715-232-5010 or visit 400 Bowman Hall or go to the [Educational Talent Search](#) website.

Multicultural Student Services

Multicultural Student Services (MSS) provides intercultural and leadership development, academic, career and financial support and coordinates living and learning communities for African American, American Indian, Asian and Latino students. Multicultural Student Services is a great place to connect with others that value diversity and collaborate with multicultural student organizations.

For more information, call 715-232-1381, visit 217 Bowman Hall or the [Multicultural Student Services](#) website.

Student Support Services - ASPIRE

ASPIRE is a federally funded TRIO academic support program that contributes to student retention, graduation, and good academic standing. Eligible students are first generation college students, students with limited income or students with documented disabilities.

ASPIRE programming provides academic advising and coaching, individualized math and writing support and more for eligible students. The staff helps students monitor their academic progress and provide career counseling and other services to help students achieve their academic and college goals.

For more information, call 715-232-5180, visit 310 Bowman Hall or go to the [ASPIRE](#) website.

Student Health Services

All registered UW-Stout students are eligible to receive care at the Student Health Services. The majority of the services are funded by the student health fee, which is included in the tuition and fee payment. Services offered are diagnosis and treatment of illnesses and injuries; diagnosis, medical treatment and collaborative care with counseling professionals for common mental health concerns; general, employment, travel and athletic physicals; preventative health screening; diagnosis and treatment for sexually transmitted infections; confidential HIV testing; laboratory testing; on site availability of common prescription medication and orthopedic supplies; immunizations/vaccines; tuberculin skin testing; and health education. Services are available during the academic year from 7:45 a.m. to 4:30 p.m., and during the WinTerm session from noon to 4:30 p.m., Monday-Friday. During the summer months, the clinic is closed; however, a health advice line, staffed by medical care personnel, is available.

If urgent care is needed during the hours that Student Health Services is closed, contact Red Cedar Medical Center at 715-235-9671 or Marshfield Clinic at 715-233-6400. All costs are the responsibility of the student.

Additional information about services, health insurance and other topics is available at the [Student Health Services](#) website.

Textbooks

Textbooks and other required resources for your classes are available for loan at this service. Instructional Resources Service (IRS) is located on the west side, second floor, of the Robert S. Swanson Library and Learning Center. Required resources may be checked out and are due the last day of the class.

If you have any questions or need assistance, feel free to stop in or call 715-232-2492. Additional information is available at the [Instructional Resources Service](#) website.

Memorial Student Center

The Memorial Student Center is a welcoming gathering place for students, faculty, staff administration, alumni and guests to gather, study, dine, play and relax. It is a place to get to know and understand one another. Since you'll spend three quarters of your time outside of the classroom, extracurricular and co-curricular activities that contribute to intellectual, professional and personal growth can be a valuable partner to academics. Our staff is dedicated to making your out of classroom experience a valuable part of your education.

The student center is conveniently located at 302 10th Avenue, a major crossroad of the campus. You are invited and encouraged to use the facility, services, programs and activities offered by the Memorial Student Center. For more information about our services, call 715-232-1431 or visit the [Memorial Student Center](#) website.

The Involvement and Leadership Center

The Involvement Center, located in the Memorial Student Center, fosters a supportive environment that encourages and challenges students to become fully engaged in and enjoy campus life, to seek learning outside of the classroom and to prepare themselves as contributing citizens.

- **Student Organizations** You may choose from approximately 165 student organizations and a myriad of activities on campus, in areas as diverse as music, service, journalism, religion and politics. Student organizations help students continually develop their skills interests. A [list of student organizations](#) is online.
- **Involvement and Leadership** provides significant learning experiences for students through meaningful service and leadership activities that benefit our community. Learn more at the [Involvement Center](#) website.

University Recreation is a great way for you to stay active, develop friendships and learn lifetime skills while attending UW-Stout. If you are into playing sports, rock climbing, strength training, kayaking and cardio classes, then look no further - University Recreation has it all.

You can be active in the following programs:

- **Intramural Sports** will let you exercise your competitive spirit. Join a team or create your own and challenge the rest of the university in the sport you love most. Organized leagues with tournament play and officiating allows for an exciting athletic environment.
- The **Health and Fitness Center** offers a state-of-the-art facility along with group fitness classes taught by instructors. If you need a little motivation or guidance, our knowledgeable staff of personal trainers is always available to help out. A 25-yard swimming pool is available for recreational use. This is a chance to achieve peak physical fitness.
- **Stout Adventures** will take you to the backcountry, up high on a rock face, or down a scenic waterway. Discover your sense of adventure and explore the wilderness around you. Those who enjoy climbing can take advantage of two 30-foot indoor climbing walls. Memberships are available to all students. Stout Adventures also facilitates an outdoor Adventure Challenge Course which consists of two 50-foot towers and nine low initiatives designed to challenge groups or individuals.
- **Sport Clubs** are another great way to show your competitive spirit, with up to 26 clubs to choose from. These sport clubs

have been formed by individuals who are motivated by a common interest and desire to participate in a recreational activity. Many clubs compete regionally and nationally.

If you are looking for student employment, University Recreation employs 120 students yearly from intramural sports officials and lifeguards, to group fitness instructors, and adventure challenge course facilitators. Learn more at the [University Recreation](#) website or call 715-232-1392.

Veteran Services

The Veteran Services office provides assistance to veterans, military service members, and the children and spouses of veterans. This office provides students with current information on military/veteran specific education benefits and processes these benefit programs. Veteran Services also manages veteran related student services programming and maintains liaison with veteran/military related government entities at the local, state, and federal levels. All students receiving veteran/military financial assistance must file the appropriate forms with this office to be officially certified to receive benefits.

In accordance with Wisconsin State Statute, priority registration is given to all veterans, service members, and contracted ROTC cadets who are serving or have served in the U.S. armed forces under honorable conditions.

Veteran Services generally awards veteran priority registration automatically. If you do not have priority registration, but believe you should, please contact our office directly.

For more information, visit [Veteran Services](#), 109 Bowman Hall, 715-232-1659 or veteranstudents@uwstout.edu.

Teacher Education

Teacher Education

Teacher preparation programs are affiliated through the School of Education, housed in the College of Education, Health and Human Sciences. Candidates can prepare to become education professionals in technical or community college settings or in PK-12 school settings. The School of Education and its programs are accredited by the Wisconsin Department of Public Instruction and the National Council for the Accreditation of Teacher Education. The School of Education serves as a resource center for students, schools and the general public.

Information about the School of Education and specific teacher education programs, minors and other subprograms can be found online at the [School of Education website](#).

Pre-education is the initial designation for students interested in becoming a licensed teacher in a PK-12 educational setting. The UW-Stout School of Education Assessment System is designed so that candidate progress is reviewed at various points called benchmarks.

Certification

Licensing agencies make periodic changes in requirements that may necessitate program changes. It is the student's responsibility to make certain they have the most current information about Wisconsin requirements from their adviser or program director. Certification requirements vary by state. UW-Stout programs are designed to meet the requirements in Wisconsin only. Students contemplating teaching certifications in another state are responsible for understanding the requirements in the state for which they wish to seek a teaching license.

Glossary of Academic Terms

Academic Probation

A condition of attendance under which students are allowed to remain at the university with the understanding that they meet set academic standards within a set period of time. Failure to meet the standard results in dismissal from the university.

Add and Drop

The process of changing a course schedule by dropping or adding a course during the prescribed time at the beginning of each semester.

Adviser

Faculty or staff member who can provide information and assistance on academic concerns.

Audit

Students register and attend class, but do not take examinations. No credit hours are earned, and the cost of the class is less than

regular tuition. "AU" will appear on the grade record.

Bachelor's Degree

The degree received after completing a specific program of undergraduate study and fulfilling all graduation requirements.

Certificate

See "Professional Development Certificate."

Certification

A recognition of professional achievement bestowed by an outside organization.

Class Standing

A measurement of achievement based on the number of credit hours earned. Students with 90 or more credits are seniors. Juniors have 60 or more credits, and sophomores have at least 30 credits.

College

An administrative division of the university housing academic departments, degree programs and other administrative units. At UW-Stout these are: Arts, Communication, Humanities and Social Sciences; Education, Hospitality, Health and Human Sciences; and Science, Technology, Engineering, Mathematics Management.

College Parallel Program

A program of study offered at Wisconsin Technical Colleges and UW System Colleges in which the courses meet the requirements and standards of courses offered at the university.

Concentration

A component within a degree program that examines a selected area of the student's chosen professional field in greater detail. A concentration may be part of the university's planned offerings or designed by the student.

Cooperative Education

Cooperative education is a learning approach that integrates college studies with working experiences in industry, business, government and public service. Under the plan, students leave campus (3 to 12 months) for the rigors and responsibilities of actual employment situations. The objective of the Cooperative Education Program at UW-Stout is to offer an additional option for learning and to give students a realistic education, which effectively combines academic classroom learning with experiential learning.

Credit Hour

UW-Stout defines a credit hour as an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates: [1] At least 750 minutes of classroom or direct faculty instruction and a minimum of 1,500 minutes of out-of-class student work for one semester credit hour, or the equivalent amount of work over a different amount of time (e.g. compressed courses); or [2] At least an equivalent amount of work as required in part one [1] of this definition for other academic activities as established by UW-Stout, including distance education, online, hybrid, or other indirect faculty instruction, laboratory work, internships, co-op experiences, studio work, and other academic work leading to the award of credit hours. This definition of the semester credit hour applies to all academic credit bearing activities at all levels (graduate and undergraduate).

Credit Load

The number of credits a student registers for during a semester.

Degree Audit

A report that indicates the students' progress in meeting all of the requirements for a specific degree program.

Degree Program

A planned program of study leading to a bachelor's degree.

Degree-Seeking Student

A student who has been admitted to a degree program and is seeking a bachelor's or master's degree.

Disadvantaged

Deprived of basic social rights and security through poverty, discrimination, or other unfavorable circumstances.

Educationally Disadvantaged

Deprived of a socially adequate education through poverty, discrimination, or other unfavorable circumstances.

Elective

A course taken at the choice of the student. If the electives are in the general education component of a degree program, they must be general education courses.

Emphasis

A designated group of courses within a degree program that affords increased exposure to a specific area in the student's chosen professional field.

Full Time Student

An undergraduate student who enrolls for at least 12 credits during the fall, spring, or summer terms.

General Education Program

The General Education Program provides the core of what it means to be a well-educated university graduate. The goal is to promote human excellence through a broad foundation of skills and knowledge required to realize a meaningful personal, professional, and civic life. The General Education Program is intended to enable students to contribute to and live responsibly in a diverse, interconnected, and technologically sophisticated global community.

In accordance with the General Education Program, general education courses should be accessible to a broad audience and should further the goal of providing a well-rounded education regardless of career aspirations or program of study.

Global Perspectives

A university requirement that helps students develop an understanding of the deeply interconnected nature of the world, see local, regional, and global connections, and thus, how their own behaviors, ideas, and activities are globally situated.

Good Standing

Maintaining an academic record that meets UW-Stout's requirements; eligible to continue at or return to the university, or to transfer to another institution.

Grade Point

The numerical value given to letter grades, based on an "A" receiving four points, a "B" three points, and so on.

Grade Point Average (GPA)

The numerical value assigned to a student's scholastic average, computed by dividing the total grade points by the total credit hours attempted.

Grant

Financial assistance that does not have to be repaid.

Hold

A barrier placed on a student's ability to register for classes as a result of unpaid monetary obligation or other action by the university.

Incomplete

The grade assigned only if a student is temporarily unable to complete course requirements because of unusual circumstances.

Independent Study

One-on-one activity between instructor and student where the focus is on individual attention.

Interdisciplinary

Drawing on two or more disciplines in a single course or program.

Internship

Work in a company or agency related to a student's degree program and career plans, usually for academic credit and often also for payment.

Major

A planned program of study leading to a bachelor's degree. Term is often used interchangeably with degree program.

Major studies

A component within a degree program that provides fundamental education for a particular career discipline.

Minor

A sequence of related courses consisting of 15 or more semester hours of credit, in a particular field to complement a major and enhance the primary degree.

Practicum

Directed work experience related to a program of study.

Prerequisite

A course or experience that must be successfully completed before enrollment in a designated course.

Professional Development Certificate

An alternative academic credential for individuals seeking to obtain new knowledge and skills or to update their knowledge and skills in a specific area.

Professional Electives

Required credits that are not prescribed by the program by designation of a specific course, but that are professional and specific in their content as they pertain to the major.

Program Director

The program director is responsible, with the advisement of the program committee, for the total curriculum of the major program and aids students in meeting all requirements for that program.

Racial and Ethnic Studies

A university requirement that prepares students for being engaged citizens in a highly diverse society and to come to appreciate, understand, value and respond respectfully to cultural diversity. Through the study of U.S. cultures other than those from a European origin, we hope to discourage racism and thus reduce its effects.

Readmission

An appeal procedure for students who have been dismissed or suspended, administered by the Dean of Students.

Re-Entry

An enrollment procedure followed by students who were previously enrolled in good standing at UW-Stout but whose attendance was interrupted for two or more consecutive semesters.

Registration

The process of enrolling in and paying for courses each semester.

Selectives

A group of courses from which a student must choose a prescribed number of credits to meet a program requirement.

Semester

A unit of time, generally 15 weeks long, in the academic calendar.

Specialization

A specialization is a program of study, with carefully constructed learning experiences, defined outcomes, and specified evaluation procedures. Students may enroll in the specialization as a stand-alone program or in addition to their undergraduate or graduate major.

Suspension

To be excluded from the university as a penalty for failure to meet academic or behavioral standards.

Teaching Major/Minor

A state-approved program for teacher certification for teaching at the secondary and/or elementary level.

Transcript

A copy of a student's permanent academic record.

Transfer Credit

Academic credit earned at another accredited institution and accepted toward a UW-Stout degree.

Tuition

The amount of money that must be paid for a course.

Course Descriptions

A typical course description in the Undergraduate Bulletin appears like this:

LIT 273 American Multicultural Literature

The three digits of the course codes refer to the course level. Undergraduate courses are those numbered from 100 to 499. All numbers above that are for graduate credit. The 100 series is primarily for freshmen; 200 – sophomores; 300 – juniors; and 400 – seniors.

Course Planning Information

Information included with the course description helps you as you plan your course schedules. General Education (Gen Ed), Racial and Ethnic Studies (RES), Global Perspective (GLP), repeatability, and terms offered (if known) are indicated.

The terms indicated serve only as a general guide and do not guarantee that a course will be offered during a particular semester. Verify availability of a course in any given term by checking the online Open Courses listing or through Access Stout when planning your schedule.

Architecture, Engineering and Construction

AEC-120 Construction Industry Orientation and Documents

AEC-120 Construction Industry Orientation and Documents

(3 cr.)

Repeatable for Credit: No

An introduction to the field of construction to broaden student understanding and develop appreciation of the entire scope of construction. Emphasis on fundamental understanding of construction documents including drawings and specifications. Relationship between drawings and specifications to other contractual documents will be explored.

AEC-131 Architectural Graphics

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

AEC-149 Cooperative Education Experience

AEC-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

AEC-171 Light Construction Methods and Materials

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

AEC-172 Construction Technology

AEC-172 Construction Technology

(3 cr.)

Repeatable for Credit: No

Technology of constructing buildings, bridges and other structures, including: site preparation, foundation systems, superstructures, enclosures, utilities, finishing methods, and materials.

AEC-190 Orientation to Construction Industry

AEC-190 Orientation to Construction Industry

(1 cr.)

Repeatable for Credit: No

An introduction to the field of construction as presented by professionals in the construction industry to broaden student understanding and develop appreciation of the entire scope of construction.

AEC-191 The Built Environment

AEC-191 The Built Environment

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Construction and its relationship to resources, materials, and the culture in which it takes place. Discussion of significant historical and modern structures. Emphasis on how, why, and by whom structures are built and what can be learned from them.

AEC-198 Field Experience

AEC-198 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

AEC-199 Independent Study

AEC-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

AEC-233 Architectural Design I

AEC-233 Architectural Design I

(3 cr.)

Repeatable for Credit: No

Develop graphic simulation techniques and problem-solving abilities related to the architectural effectuation process. Gain an understanding of site planning, residential space requirements, building codes, structure, finishes, mechanical and electrical systems.

Prerequisites: take AEC-131

AEC-237 Architectural Technology

AEC-237 Architectural Technology

(3 cr.)

Repeatable for Credit: No

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems.

Prerequisites: take AEC-131 and earn a C or better

AEC-249 Cooperative Education Experience

AEC-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

AEC-270 Heavy Construction Methods and Equipment

AEC-270 Heavy Construction Methods and Equipment

(3 cr.)

Repeatable for Credit: No

Introduction to commercial and industrial building systems: equipment, site preparations, footings, foundations, formwork, concrete, steel, and wood timber techniques.

Prerequisites: Take AEC-171 and earn a C or better

AEC-273 Concrete And Masonry Technology

AEC-273 Concrete And Masonry Technology

(3 cr.)

Repeatable for Credit: No

Fundamental principles of cement and concrete (ingredients, mixing, placement, finishing, curing, properties, and applications); clay and concrete units (ingredients, properties, manufacture, placement, and application).

Prerequisites: AEC-171 with a grade of C or better

AEC-298 Field Experience

AEC-298 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

AEC-299 Independent Study

AEC-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

AEC-335 Architectural Design II

AEC-335 Architectural Design II

(3 cr.)

Repeatable for Credit: No

Programming and analysis, design solution, presentation and design development drawings for commercial and/or public buildings; scale, site, codes, energy, acoustics, structure and their relation to form.

AEC-349 Cooperative Education Experience

AEC-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

AEC-352 Building Mechanical Systems

AEC-352 Building Mechanical Systems

(3 cr.)

Repeatable for Credit: No

Fundamental theory and application of heating, ventilation, air conditioning, plumbing, and fire suppression systems for buildings. Emphasis on system integration and sustainable topics as related to design, construction and management of mechanical construction scope of work.

Prerequisites: Take AEC-237 and earn a C or better

AEC-353 Building Electrical and Control Systems

AEC-353 Building Electrical and Control Systems

(3 cr.)

Repeatable for Credit: No

Fundamental theory and application of the design, layout, and construction of electrical and building control systems. Principles of code, design, construction documents reading, means and methods applied to electrical systems, lighting, building controls, and sustainable topics as related to electrical scope of work.

Prerequisites: Take AEC-237 and earn a C or better

AEC-357 Site Engineering

AEC-357 Site Engineering

(3 cr.)

Repeatable for Credit: No

Use of surveying instruments, techniques, computations and computer technology used to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage.

Prerequisites: Take AEC-131 & MATH-121 or higher and earn a C or better

AEC-370 Construction Estimating I

AEC-370 Construction Estimating I

(3 cr.)

Repeatable for Credit: No

Estimating and analyzing material, labor, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid.

Prerequisites: Take AEC-237 and earn a C or better

AEC-375 Construction Practicum

AEC-375 Construction Practicum

(2-4 cr.)

Repeatable for Credit: No

Technical information, construction problems and actual development of light residential structure.

AEC-395 Seminar: Lumber and Wood Products Industry

AEC-395 Seminar: Lumber and Wood Products Industry

(1-2 cr.)

Repeatable for Credit: No

Introduction to career opportunities in the lumber and wood products industry and to environmental aspects of forestry, timber harvest, and product manufacture and use. Discussion of topics in forestry, business of lumber, responsible materials, green building and ecosystem markets.

AEC-398 Field Experience

AEC-398 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

AEC-399 Independent Study

AEC-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

AEC-438 Contract Requirements and Specifications

AEC-438 Contract Requirements and Specifications

(3 cr.)

Repeatable for Credit: No

Principles of contract requirements and construction specification organization. Development of basic skills of project manual preparation. Demonstration of role of specifications within the construction process and relationship to other construction contract documents.

Prerequisites: Take ENGL-320

AEC-449 Cooperative Education Experience

AEC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

AEC-455 Advanced Mechanical Construction Systems

AEC-455 Advanced Mechanical Construction Systems

(3 cr.)

Repeatable for Credit: No

Principles of the design and installation of advanced mechanical systems with an emphasis on industrial construction applications. Related building codes, materials, instrumentation and control systems necessary for the installation and commissioning of advanced mechanical systems.

Prerequisite: take AEC-352

AEC-456 Advanced Electrical Construction Systems

AEC-456 Advanced Electrical Construction Systems

(3 cr.)

Repeatable for Credit: No

Principles of the design and installation of advanced electrical systems in construction. Emphasis on industrial construction

applications. Detailed topical coverage of related codes, materials, power generation, instrumentation and control systems necessary for the design, installation and operation of advanced electrical systems.

Prerequisite: take AEC-353

AEC-458 Structural Systems--Wood and Steel

AEC-458 Structural Systems--Wood and Steel

(3 cr.)

Repeatable for Credit: No

Analysis, selection, and delineation of wood and steel structural components and systems in buildings.

Prerequisites: Take PHYS-321 and earn a C or better

AEC-459 Structural Systems-Concrete And Masonry

AEC-459 Structural Systems-Concrete And Masonry

(3 cr.)

Repeatable for Credit: No

Analysis, selection, and delineation of concrete and masonry structural components and systems in buildings.

Prerequisites: Take AEC-458 and earn a C or better

AEC-460 Sustainable Construction

AEC-460 Sustainable Construction

(3 cr.)

Repeatable for Credit: No

Survey of principles of sustainable construction, including building design and delivery methods. Ethics and stewardship as part of the constructor's role in the built environment. Examination of domestic and global Green building assessment systems. Emphasis is placed on preparing the student for the LEED building assessment system. Must be Junior level or higher

AEC-461 Building Codes and Regulations

AEC-461 Building Codes and Regulations

(3 cr.)

Repeatable for Credit: No

Extensive examination of the International Building Code. Intent and purpose of codes and regulations are presented, discussed, and reasoned. Contemporary issues in the construction industry are evaluated by students. Particular emphasis is placed on preparing the student for the ICC Certified Inspector examination. Must be Junior level or higher

AEC-470 Construction Estimating II

AEC-470 Construction Estimating II

(3 cr.)

Repeatable for Credit: No

Total concept of construction industry costs. Computer-based estimating systems for construction. Contracting, financing, takeoff, pricing, bid preparation, resource and cost studies, control of costs and database operations.

Prerequisites: Take AEC-370 with a grade of C or better

AEC-471 Project Scheduling and Cost Control

AEC-471 Project Scheduling and Cost Control

(3 cr.)

Repeatable for Credit: No

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques.

Prerequisites: Take AEC-370 with a grade of C or better

AEC-472 Management of Construction

AEC-472 Management of Construction

(4 cr.)

Repeatable for Credit: No

Capstone experience demonstrating skills of organization, management, and operations required within the built environment.

Prerequisites: Take BUMGT-304.

AEC-473 Mechanical and Electrical Construction Management

AEC-473 Mechanical and Electrical Construction Management

(3 cr.)

Repeatable for Credit: No

Principles of project management applied to mechanical and electrical construction projects. Organizing, managing and operating a mechanical or electrical specialty contracting firm.

Prerequisites: take AEC-455 and AEC-456

AEC-499 Independent Study

AEC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Anthropology

ANTH-199 Independent Study

ANTH-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ANTH-220 Cultural Anthropology

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

ANTH-230 Anthropology of the Contemporary United States

ANTH-230 Anthropology of the Contemporary United States

(3 cr.)

Racial & Ethnic Studies Category A, Social and Behavioral Science - Anthropology, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Use of theoretical and conceptual principles and perspectives of cultural anthropology to study communities and cultures in the U.S. Examination of race, class, gender, and sexual inequalities; current Native American issues; kinship; religion; militarism; cultures of science and technology.

ANTH-249 Cooperative Education Experience

ANTH-249 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally, entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ANTH-290 Global Political Ecology

ANTH-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in

cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

ANTH-293 Environmental Justice

ANTH-293 Environmental Justice

(3 cr.)

Racial & Ethnic Studies Category A, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Environmental racism; socio-economic inequality and exposure to environmental hazards; race, class, and environmental suffering; grassroots activism and opposition to environmental inequality and racism, particularly among U.S. minority groups; incorporation of environmental justice principles into public policy and corporate decision-making.

ANTH-299 Independent Study

ANTH-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ANTH-300 Native Americans

ANTH-300 Native Americans

(3 cr.)

Racial & Ethnic Studies Category A, Social and Behavioral Sciences - Anthropology

Repeatable for Credit: No

Survey of Native American cultures; major social, economic, religious, and political forms of organization; contemporary Native American lives and issues in both urban and reservation contexts.

ANTH-330 Social Theory

ANTH-330 Social Theory

(3 cr.)

Repeatable for Credit: No

Learning and applying advanced sociological and anthropological theories to social issues. Understanding various tools of explanation in the social sciences, as well as their origins, assumptions, and specific ways-of-knowing. Building a theoretical toolkit with the ability to compare, evaluate and synthesize theories for particular applications.

ANTH-349 Cooperative Education Experience

ANTH-349 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work

periods, each one building and expanding on the previous.
Department Consent

ANTH-356 Gender in Cross-Cultural Perspective

ANTH-356 Gender in Cross-Cultural Perspective

(3 cr.)

Global Perspective, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Gender roles in cross-cultural perspective. Anthropological theories of gender and inequality; social responsibility balancing cultural relativism and equity. Variation in domestic, social, economic, political, and religious roles; historical development of and contemporary changes in gender roles; global influences and processes of change and improvement in the lives of modern women.

ANTH-400 Applied Anthropology

ANTH-400 Applied Anthropology

(3 cr.)

Repeatable for Credit: No

Application of anthropology to address social problems through research, advocacy, and policy development. Cross-cultural case studies and community outreach through service learning or career oriented research project that incorporates ethnographic fieldwork strategies, critical reflection on human rights, social justice, and research ethics.

Prerequisite: take ANTH-220

ANTH-420 The Anthropological Study of Family Systems

ANTH-420 The Anthropological Study of Family Systems

(3 cr.)

Repeatable for Credit: No

Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions.

ANTH-449 Cooperative Education Experience

ANTH-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Apparel Design/Manufacturing

APRL-134 Global Fashion Industry

APRL-134 Global Fashion Industry

(3 cr.)

Global Perspective

Repeatable for Credit: No

Analysis of the global fashion industry including design, development, merchandising, and manufacturing, with a specific emphasis on brand and organizational development.

APRL-145 Interior Decorating/Design Textiles

APRL-145 Interior Decorating/Design Textiles

(3 cr.)

Repeatable for Credit: No

Fibers and fabrics used in design/decorating planning of residential and commercial settings.

APRL-166 Apparel Construction I

APRL-166 Apparel Construction I

(3 cr.)

Repeatable for Credit: No

Study and application of woven apparel construction techniques, fabric selection, and fit.

APRL-167 Textiles I: Theory, Fibers and Structures

APRL-167 Textiles I: Theory, Fibers and Structures

(3 cr.)

Repeatable for Credit: No

Study of fibers, yarns, textiles, and textile manufacturing processes, and how target market needs are addressed through textile selection.

APRL-180 Pattern Development

APRL-180 Pattern Development

(3 cr.)

Repeatable for Credit: No

Introduction to flat pattern development for woven garments, with a focus on pattern alterations and fit process for global production.

APRL-211 History and Culture of Fashion

APRL-211 History and Culture of Fashion

(3 cr.)

Repeatable for Credit: No

A study of the changes in fashion including trends, designers and cultural norms through analysis of silhouette, construction, and styling.

APRL-225 Target Market Research and Line Development

APRL-225 Target Market Research and Line Development

(3 cr.)

Repeatable for Credit: No

Apparel collection development by researching target markets and trend; hand and computer drawing techniques are utilized to communicate collection development.

APRL-250 Textiles II: Evaluation

APRL-250 Textiles II: Evaluation

(3 cr.)

Repeatable for Credit: No

Evaluation of materials and products using industry testing equipment, procedures, and standards.

Prerequisite: Take APRL-167

APRL-272 Quality Analysis of Sewn Products

APRL-272 Quality Analysis of Sewn Products

(3 cr.)

Repeatable for Credit: No

Analysis of sourcing and materials for quality product performance and specification development.

Prerequisite: Take APRL-167

APRL-286 Apparel Construction II: Cut and Sewn Knits

APRL-286 Apparel Construction II: Cut and Sewn Knits

(3 cr.)

Repeatable for Credit: No

Study and application of construction methods specific to stretch fabric sewn products.

Prerequisite: Take APRL-180

APRL-290 Specifications and Fit Development

APRL-290 Specifications and Fit Development

(3 cr.)

Repeatable for Credit: No

Garment sizing, fit, graded specifications, and pre-production processes of mass produced apparel.

Prerequisites: Take APRL-180 and APRL-272

APRL-296 Fashion Drawing

APRL-296 Fashion Drawing

(3 cr.)

Repeatable for Credit: No

In depth study of fashion illustration techniques.

APRL-299 Independent Study

APRL-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

APRL-355 Special Topics in Apparel Design/ Manufacturing

APRL-355 Special Topics in Apparel Design/ Manufacturing

(1-3 cr.)

Repeatable for Credit: Yes

Special topics in clothing and textiles. Repeatable for different topics.

APRL-373 Advanced Pattern Development

APRL-373 Advanced Pattern Development

(3 cr.)

Repeatable for Credit: No

Advanced pattern development by flat pattern making and draping methods, with an emphasis on creative pattern modifications and fit evaluation for global production.

Prerequisite: Take APRL-180

APRL-390 CAD for Apparel Images

APRL-390 CAD for Apparel Images

(3 cr.)

Repeatable for Credit: No

Using CAD programs, students create and communicate apparel collections for various target markets based on market research.

Prerequisite: Take APRL-225

APRL-390 Practicum in Textile Design

APRL-390 Practicum in Textile Design

(3 cr.)

Repeatable for Credit: No

Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, applique and hooking; emphasis on good design and creativity.

Prerequisite: Take ART-101 with a grade of C or better

APRL-393 Garment Engineering/Production

APRL-393 Garment Engineering/Production

(3 cr.)

Repeatable for Credit: No

Knowledge of the global fashion industry including development, merchandising, and engineering of soft goods production applied in a team-based laboratory simulation.

Prerequisites: take APRL-134, APRL-250, APRL-286 , and APRL-290

APRL-398 Field Experience

APRL-398 Field Experience

(2-3 cr.)

Repeatable for Credit: Yes

A practical work experience within the apparel industry, supervised by a faculty member, requiring a minimum of 180 hours of unpaid work.

Department Consent

APRL-399 Independent Study

APRL-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

APRL-405 International Study Tour to the Fashion Industry

APRL-405 International Study Tour to the Fashion Industry

1-(6 cr.)

Repeatable for Credit: Yes

Tour of international centers of clothing, textiles, and related arts. Study of the cultural patterns. Program includes lectures by consultants and seminars on the various phases of the fashion and fabric industries.

Department Consent

APRL-419 National Study Tour to Fashion Industry

APRL-419 National Study Tour to Fashion Industry

(1 cr.)

Repeatable for Credit: Yes

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market.

Department Consent

Must be Junior level or higher

APRL-449 Cooperative Education Experience

APRL-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

A practical work experience within the apparel industry, supervised by a faculty member, requiring a minimum of 320 hours of paid work over a minimum of eight weeks.

Department Consent

Must have a cumulative GPA of 2.75 or higher and must be at least a Junior.

APRL-454 Knit Design, Fabrication and Technology

APRL-454 Knit Design, Fabrication and Technology

(3 cr.)

Repeatable for Credit: No

Study of knit design, fabrication and technology, including stitches, yarns, texture effects, production and quality issues.

Prerequisites: Take APRL 167

APRL-464 Functional Design and Development

APRL-464 Functional Design and Development

(3 cr.)

Repeatable for Credit: No

Work teams apply physical science theory and creative problem solving methods to innovate functional clothing for specific needs, occupations, and activities.

Prerequisites: take APRL-250, APRL-286, APRL-290, APRL-373, and APRL-390

APRL-482 Studio I: Brand Development

APRL-482 Studio I: Brand Development

(3 cr.)

Repeatable for Credit: No

Research and develop a personal apparel brand including technical and aesthetic design, promotion and production.

Prerequisites: Take APRL 373 , APRL 390 , APRL 464 , and APRL-394

APRL-485 Studio II: Collection Development

APRL-485 Studio II: Collection Development

(3 cr.)

Repeatable for Credit: No

Original collection development and presentation of research, design development, production and marketing.

Prerequisite: take APRL-482

APRL-498 Field Experience

APRL-498 Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries.

Department Consent

APRL-499 Independent Study

APRL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Applied Biochemistry and Molecular Biology

ABMB-101 ABMB Professions

ABMB-101 ABMB Professions

(1 cr.)

Repeatable for Credit: No

Introduction to the Applied Biochemistry and Molecular Biology Profession. First of two 1-credit introductory courses for students entering the ABMB program at UW-Stout. Information on relevant careers, a curriculum survey, and introductory topics for students' success in the ABMB program.

ABMB-201 Introduction to Research in ABMB

ABMB-201 Introduction to Research in ABMB

(1 cr.)

Repeatable for Credit: No

Introduction to primary literature, hypothesis development, experimental design, and data analysis in life sciences research.

ABMB-398 Field Experience in ABMB

ABMB-398 Field Experience in ABMB

(1-6 cr.)

Repeatable for Credit: Yes

Field Experience in ABMB in an approved position consisting of a minimum of 320 hours of work experience followed by oral presentation and written report.

Prerequisite: Petition required

ABMB-410 Bioinformatics and Big Data

ABMB-410 Bioinformatics and Big Data

(2 cr.)

Repeatable for Credit: No

Interpretation of data emerging from new biomolecular methodologies. Focus on our evolving understanding of living organisms and our ability to manipulate genetic information and biochemical pathways. Consideration of impacts to health care, industry, agriculture, and the environment.

Prerequisites: BIO 332 (co-enrollment is acceptable) or CHEM 311, or CS 244 and Junior-level or higher

ABMB-470 ABMB Capstone

ABMB-470 ABMB Capstone

(1 cr.)

Repeatable for Credit: No

Capstone experience involving completion of senior research portfolio, including scientific reporting of data, ethical stances of Biochemistry and Molecular Biology (BMB) professionals, best practices as an employable professional.

Prerequisites: BIO 370, CHEM 311 and senior status

Applied Science

APSC-101 Applied Science Profession I

APSC-101 Applied Science Profession I

(1 cr.)

Repeatable for Credit: No

Exploration of career areas of interest; examine appropriate interpretations of scientific measurements and experimental design.

APSC-149 Cooperative Education Experience

APSC-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain practical experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

APSC-249 Cooperative Education Experience

APSC-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain practical experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

APSC-349 Internship Experience in Applied Science

APSC-349 Internship Experience in Applied Science

(1-2 cr.)

Repeatable for Credit: Yes: up to 12 cr., 4 times

Work and study in an approved position to gain practical experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Three hundred twenty hours of work in this setting are required per credit.

Department Consent

APSC-398 Field Experience in Applied Science

APSC-398 Field Experience in Applied Science

(1-2 cr.)

Repeatable for Credit: No

Field experience in Applied Science in an approved position. Guidelines for credit to follow those developed by the University for coop experiences. Students are responsible for an oral presentation and a written report.

Department Consent

APSC-401 Applied Science Profession II

APSC-401 Applied Science Profession II

(1 cr.)

Repeatable for Credit: No

Preparation for the science profession. Assess knowledge base, identify areas of strengths and weaknesses, define plan for further development. Build a professional portfolio and resume, and review interviewing skills. Explore methods of strategic planning and analysis for science professionals.

Must be Senior level or higher

APSC-449 Cooperative Education Experience

APSC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

APSC-499 Independent Study

APSC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Applied Social Science

APSS-100 Introduction to Applied Social Science

APSS-100 Introduction to Applied Social Science

(1 cr.)

Repeatable for Credit: No

Introduction to social science ideas, ethics and practices. Acquaints students with the Applied Social Science program structure and choices, as well as potential job opportunities in the field.

APSS-300 Quantitative Research Methods

APSS-300 Quantitative Research Methods

(3 cr.)

Repeatable for Credit: No

Second of three social science research methods courses for the Applied Social Science major; advanced methodological issues of quantitative inquiry; practical issues of application and evaluation of research tools.

APSS-301 Qualitative Research Methods

APSS-301 Qualitative Research Methods

(3 cr.)

Repeatable for Credit: No

This course will introduce students to the research process, including how to synthesize previous research and theories in the process of designing their own research project. In addition, students will learn qualitative methodologies of inquiry commonly used in the social sciences and history. These will include, but not be limited to, ethnography, content analysis, interviews, visual and media analysis, contextualization practices in time and space and archival research. Students will become familiar with ethical issues in the data collection and analysis process. Students will learn to construct research questions that frame social problems and address them with systematic, thoughtful and thorough qualitative data collection and analysis while using advanced 'toolkits' of a social analyst and appropriate software.

APSS-349 Cooperative Education Experience

APSS-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

APSS-399 Independent Study

APSS-399 Independent Study

(1-3 cr.)

Repeatable for Credit: No

Department Consent

APSS-400 Applied Social Science Capstone

APSS-400 Applied Social Science Capstone

(5 cr.)

Repeatable for Credit: No

Capstone experience for the undergraduate major in Applied Social Science; students will develop and conduct an applied research project using theory and evidence to analyze a chosen social scientific, historical or interdisciplinary topic and communicate the results; contextualize data and primary sources; hone professional writing skills and use their skills in career planning.

Prerequisite: take APSS-300 and APSS 301; or consent of instructor

APSS-449 Cooperative Education Experience

APSS-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

APSS-450 Bricolage, Bridges, and Transdisciplinary Analysis

APSS-450 Bricolage, Bridges, and Transdisciplinary Analysis

(3 cr.)

Repeatable for Credit: No

This course teaches students how to create meaningful transdisciplinary narratives that combine the myriad skills and modes of analysis found in the Applied Social Science program. This includes a sophisticated foray into what it means to think, write and enact the interdisciplinary methodology of the Applied Social Science program. This course will teach students how and why interdisciplinary methodologies are essential tools in framing themselves and their research in relation to the world at large.

Prerequisites: Senior standing or consent of instructor and APSS 400 .

APSS-499 Independent Study

APSS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Arabic

ARAB-101 Elementary Arabic I

ARAB-101 Elementary Arabic I

(4 cr.)

Global Perspective, Communication Skills

Introduction to Modern Standard Arabic will acquaint students with the working vocabulary, dialogue skills, and pronunciation needed for elementary Arabic reading and writing. Linguistic development will include basic listening skills, elementary conversation, appreciation of the many Arabic dialects, and knowledge of Arab culture.

ARAB-196 Elementary Arabic II

ARAB-196 Elementary Arabic II

(4 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Increase in proficiency of Arabic language skills through reading, writing, grammar, conversation, and listening skills. More complex grammatical structures of Arabic for purposes of basic communication in a wider variety of situations.

Prerequisites: take ARAB 101 or Instructor Consent

Art

ART-100 Drawing I

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-102 Introduction to Art and Design

ART-102 Introduction to Art and Design

(1 cr.)

Repeatable for Credit: No

Introduction to various disciplines and activities in art and design. Not appropriate for General Education requirement.

ART-103 Three-Dimensional Design Foundations

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-114 Color Studio

ART-114 Color Studio

(3 cr.)

Repeatable for Credit: No

Students apply color knowledge to art and design exercises. Content covered includes the physical properties of color, the schools of color theory and influential color theorists, and color vocabulary.

ART-145 The Practice of Art

ART-145 The Practice of Art

(3 cr.)

Repeatable for Credit: No

Introduction to current professional practices and historical roles of artists in culture.

Students must be Studio Art or Art Education majors only

ART-149 Cooperative Education Experience

ART-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ART-199 Independent Study

ART-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ART-200 Drawing II

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-209 Painting I

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-211 Contemporary Sculptural Practices I

ART-211 Contemporary Sculptural Practices I

(3 cr.)

Repeatable for Credit: No

Introduction to sculptural concepts.

Prerequisite: take ART-103 with a grade of "C" or better

ART-213 Ceramics I

ART-213 Ceramics I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-215 Metals and Contemporary Art Jewelry I

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-217 Printmaking I

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

ART-249 Cooperative Education Experience

ART-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ART-256 Art Workshop

ART-256 Art Workshop

1-(3 cr.)

Repeatable for Credit: No

Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract.

ART-256 Digital Fabrication in Jewelry

ART-256 Digital Fabrication in Jewelry

(1-3 cr.)

Repeatable for Credit: No

Exploration of digital studio applications, 3D printing and scanning, and development of post-production fabrication techniques. An introduction to 3D modeling software, digital design development, and technical applications to the field of jewelry.

ART-256 Slip-Casting for Designers and Artists

ART-256 Slip-Casting for Designers and Artists

(3 cr.)

Repeatable for Credit: Max. 6 cr.

Design and production of forms for slip-casting. Production includes mold making, slip casting, finishing, glazing and firing completed ceramic objects.

Prerequisite: take ART 103

ART-279 Comics I

ART-279 Comics I

(3 cr.)

Repeatable for Credit: No

Introduction to visual terminology and theories involved in comic creation. Students develop and apply analog comics theory, construction skills and techniques to the production of short comics.

Prerequisite(s): take ART 100, with a grade of C or better

ART-296 Digital Fabrication for Artists and Designers

ART-296 Digital Fabrication for Artists and Designers

(3 cr.)

Repeatable for Credit: No

Exploration of digital studio applications and development of post-production fabrication techniques. Introduction to 3D modeling software, digital design development, and technical applications for artists and designers.

Prerequisites: take ART 103 and ART 200

ART-299 Independent Study

ART-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ART-300 Drawing III

ART-300 Drawing III

(3 cr.)

Repeatable for Credit: Yes

Advanced drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: take ART-200 with a grade of C or better

ART-301 Life Drawing I

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

ART-307 Aesthetics in the Studio

ART-307 Aesthetics in the Studio

(3 cr.)

Repeatable for Credit: No

Introduction to the problems of aesthetics, such as interpretation, creation, and experience of art as it relates to studio practices.

Prerequisites: Take ARTH-223 and ARTH-224; and take ARTH-336 or ARTH-337 (may be taken concurrently). Also, one 300-level or higher studio Art must be taken concurrently.

ART-311 Contemporary Sculptural Practices II

ART-311 Contemporary Sculptural Practices II

(3 cr.)

Repeatable for Credit: No

Continued investigation into contemporary sculptural practices with an emphasis upon expanded research, development of concepts, and exploration of materials.

Prerequisite: take ART-211 with a grade of "C" or better

ART-313 Ceramics II

ART-313 Ceramics II

(3 cr.)

Repeatable for Credit: No

Continued study and application of wheel-throwing, hand-building, glazing and firing of ceramics, as a means of visual expression.

Prerequisite: take ART 213 with a grade of C or better

ART-315 Metals and Contemporary Art Jewelry II

ART-315 Metals and Contemporary Art Jewelry II

(3 cr.)

Repeatable for Credit: No

Exploration of intermediate jewelry forms and three-dimensional objects made of metal and related materials. Expanded approaches to conceptual development, design and technical applications.

Prerequisite: take ART-215 with a grade of C or better

ART-349 Cooperative Education Experience

ART-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ART-356 The Photographic Image and Imagery after Photography

ART-356 The Photographic Image and Imagery after Photography

(3 cr.)

Repeatable for Credit: No

Key histories, technologies, practices, theories and topics, constituting what we come to see as an image, after the invention of photography. A critical approach to the creation and critique of practices engaged with image making.

Prerequisites: take PHOTO 130, ARTH 223, and ARTH 224

ART-375 Art Photography Studio

ART-375 Art Photography Studio

(3 cr.)

Repeatable for Credit: Yes

Studio art photographic techniques and methodologies. Emphasis on media exploration and image creation for expressive and critically driven work. A repeatable class.

No

Prerequisite: Take PHOTO 130, DES 220, and ART 100.

ART-379 Comics II

ART-379 Comics II

(3 cr.)

Repeatable for Credit: No

Study and application of principles and mechanics involved in comic creation with an emphasis on developing a personal practice of literary citizenship. Students strengthen traditional analog media skills and are introduced to digital methods and practices.

Prerequisites: take DES 220 and ART 279, each with a grade of C or better or instructor consent

ART-397 Field Experience for Artists

ART-397 Field Experience for Artists

(1-3 cr.)

Repeatable for Credit: No

Work in an approved position or conduct advanced research on an approved topic related to the studio art profession.

Department Consent

Prerequisite: take ART-145

ART-399 Independent Study

ART-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ART-401 Life Drawing II

ART-401 Life Drawing II

(3 cr.)

Repeatable for Credit: No

Continued drawing and analysis of the structure of the human figure.

Prerequisite: take ART-301 with a grade of C or better

ART-403 Life Drawing III

ART-403 Life Drawing III

(1-3 cr.)

Repeatable for Credit: Yes

Self-directed study of Life Drawing; continued development of individual research, drawing skills, and studio discipline.

Prerequisite: take ART-401 with grade of C or better

ART-409 Painting II

ART-409 Painting II

(1-3 cr.)

Repeatable for Credit: Yes

Continued investigation of painting issues with a broader range of technical concerns, historical and contemporary approaches through expanded research requirements.

Prerequisite: take ART-209 with a grade of C or better

ART-410 Painting III

ART-410 Painting III

(3 cr.)

Repeatable for Credit: Yes

Self-directed study of painting. Continued development of individual research, painting skills, and studio discipline.

Prerequisite: take ART-409 with a grade of C or better

ART-411 Contemporary Sculptural Practices III

ART-411 Contemporary Sculptural Practices III

(1-3 cr.)

Repeatable for Credit: Yes

Advanced problems in sculpture, through the exploration and utilization of media for creative and expressive ends. Repeatable; topics and projects change

Prerequisite: take ART-311 with a grade of C or better

ART-413 Ceramics III

ART-413 Ceramics III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced self-directed research in ceramics, focusing on a continued development of aesthetics, techniques and materials.

Repeatable for both undergraduate and graduate students

Prerequisite: take ART-313 with a grade of C or better

ART-414 Color Seminar

ART-414 Color Seminar

(4 cr.)

Repeatable for Credit: No

A case-study course exploring methodologies for use of color. Content includes gender-specific, historic, psychological, social, and symbolic use of color; color sensibilities in other cultures; and roots of color beliefs.

Prerequisites: take PHYS-150, PSYC-432, GCM-367, and ART-114 with a grade of C or better

ART-415 Metals and Contemporary Art Jewelry III

ART-415 Metals and Contemporary Art Jewelry III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced studio experience in individualized jewelry forms and three-dimensional objects made of metal and related materials. A continuation of technical skills is coupled with emphasis on conceptual development and critical thinking.

Prerequisite: Take ART-315 with a grade of C or better

ART-417 Printmaking II

ART-417 Printmaking II

(1-3 cr.)

Repeatable for Credit: Yes

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits.

Prerequisite: take ART-217 with a grade of C or better

ART-447 Senior Seminar Studio

ART-447 Senior Seminar Studio

(3 cr.)

Repeatable for Credit: No

Culminating art studio experience to include development of a cohesive body of work and portfolio post-graduation professional/education plans, contemporary art issues, and creating art.

Prerequisites: take ART-145 and ART-307 with a grade of C or better; Prerequisite or concurrent enrollment in ART-307 with a grade of C or better. Must be Senior level, and must be Studio Art major.

ART-449 Cooperative Education Experience

ART-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ART-456 Advanced Art Workshop

ART-456 Advanced Art Workshop

(1-3 cr.)

Repeatable for Credit: Yes

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract.

ART-479 Comics III

ART-479 Comics III

(3 cr.)

Repeatable for Credit: Repeatable up to 4 times, for 12 maximum credits

Advanced comics theory and methodologies with emphasis on book length and experimental format exploration. Portfolio production of work and a foundation for sustainable practices in self-directed comic creation and authorship.

Prerequisite(s): take ART 379 with a grade of C or better or obtain instructor consent

ART-490 BFA Thesis Exhibition

ART-490 BFA Thesis Exhibition

(1 cr.)

Repeatable for Credit: No

Creation and dissemination of a body of artwork produced during the student's senior year.

Instructor's Consent Required

Must be Senior level or higher

ART-499 Independent Study

ART-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Art Education

ARTED-108 Introduction to Art Education

ARTED-108 Introduction to Art Education

(2 cr.)

Repeatable for Credit: No

Fundamental, historical and philosophic components of Art Education with an emphasis on discipline-based Art Education.

ARTED-208 Contemporary Theory and Curricular Practices in Art Education

ARTED-208 Contemporary Theory and Curricular

Practices in Art Education

(3 cr.)

Repeatable for Credit: No

Seminar and practicum course designed to combine theory and practice in K-12 art instruction. The seminar is devoted directly toward contemporary theory surrounding K-12 art education. The practicum involves 30 hours of partnered art classroom participation, including the planning, instruction, and assessment of an art lesson.

Department Consent

Prerequisites: take ARTED-108 and Benchmark I

ARTED-308 K-12 Art Education Theory, Methods, and Practice

ARTED-308 K-12 Art Education Theory, Methods, and Practice

(4 cr.)

Repeatable for Credit: No

Theory, methods, and curriculum development in art education including K-12 art teaching practicum in selected elementary and secondary art classrooms.

Prerequisites: take ARTED-208 and ARTH-223 and Benchmark I completion

ARTED-408 Student Teaching in Art Education - Elementary

ARTED-408 Student Teaching in Art Education - Elementary

(8 cr.)

Repeatable for Credit: No

Directed teaching in elementary art; required student teaching seminars, on-line course participation, and completion of portfolio.

Department Consent

Prerequisite: Benchmark I completion

ARTED-409 Student Teaching in Art Education - Secondary

ARTED-409 Student Teaching in Art Education - Secondary

(8 cr.)

Repeatable for Credit: No

Directed teaching in secondary art; required student teaching seminars, on-line course participation, and completion of portfolio.

Department Consent

ARTED-449 Cooperative Education Experience

ARTED-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ARTED-499 Independent Study

ARTED-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Art History

ARTH-222 Introduction to Art

ARTH-222 Introduction to Art

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Art appreciation and brief historical survey for students not majoring in art or design disciplines.

ARTH-223 Survey of Art--Ancient Through Medieval

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

ARTH-224 Survey of Art-Renaissance Through 20th Century

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-225 Introduction to Non-Western Art

ARTH-225 Introduction to Non-Western Art

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Cross cultural examination of the history of Non-Western art from a global perspective. Exploration of the arts of Asia, Africa, the Americas, Oceania, and the Islamic world. Exposure to diverse visual elements and humanistic concerns. Themes include: diversity, identity, religion, politics, representation of self and "the other", and Westernization.

ARTH-256 Special Topics in Art History: Art in Italy

ARTH-256 Special Topics in Art History: Art in Italy

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation (Not listed)

Repeatable for Credit: No

Survey of the art and architecture of Italy, from Antiquity through the 17th Century, with travel to Italy.

ARTH-296 Museums and Monuments in Miami

ARTH-296 Museums and Monuments in Miami

(3 cr.)

Repeatable for Credit: No

Survey of art, architecture, and design in Miami, Miami Beach, and Coral Gables, Florida. Travel to these cities is required and coordinated via the Office of International Education.

ARTH-319 History of Design

ARTH-319 History of Design

(3 cr.)

Repeatable for Credit: No

Survey of the history of modern design since its origins in the late Renaissance.

Prerequisites: take ARTH-224 with a grade of C or better and ENGL-101/ENGL-111

ARTH-325 Egyptian and Mesopotamian Art

ARTH-325 Egyptian and Mesopotamian Art

(3 cr.)

Repeatable for Credit: No

The evolution of the arts and ancient Egypt and the Near East.

ARTH-326 Greek and Roman Art

ARTH-326 Greek and Roman Art

(3 cr.)

Repeatable for Credit: No

The arts of ancient Greece and Rome.

ARTH-327 Medieval Art

ARTH-327 Medieval Art

(3 cr.)

Repeatable for Credit: No

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

ARTH-328 Italian Renaissance Art

ARTH-328 Italian Renaissance Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art and architecture in Italy from the fourteenth through the sixteenth centuries.

ARTH-329 Northern Renaissance Art

ARTH-329 Northern Renaissance Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art in Northern Europe during the late fourteenth, fifteenth and sixteenth centuries.

ARTH-330 Baroque Art

ARTH-330 Baroque Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art and architecture in Europe and the colonial New World in the seventeenth and early eighteenth centuries.

ARTH-331 Art and Controversy

ARTH-331 Art and Controversy

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Exploration of controversial or provocative works of art that push the boundaries of artistic expression. Consideration of social and historical contexts of provocative imagery. Understanding the delicate balance between differing individual, social, and cultural mores and an artist's right to freedom of expression.

ARTH-332 Gender and Art

ARTH-332 Gender and Art

(3 cr.)

Repeatable for Credit: No

Exploration of social and cultural constructions of identity and sexuality from Prehistory to the Modern era. Analysis of the ways in which gender identities can be shaped by politics, religion, and culture, and how an artist's gender and/or sexual preferences affect visual imagery, from subject choices to market values.

ARTH-333 History of Interiors and Furnishings

ARTH-333 History of Interiors and Furnishings

(3 cr.)

Global Perspective

Repeatable for Credit: No

A survey of the history of interior design, furniture, and household objects since ancient Egypt.

ARTH-335 19th Century Art In Europe

ARTH-335 19th Century Art In Europe

(3 cr.)

Repeatable for Credit: No

History of European art from about 1800 to 1900.

ARTH-336 Modern Art

ARTH-336 Modern Art

(3 cr.)

Repeatable for Credit: No

The main currents and developments in art from Monet and Cezanne to 1950.

ARTH-337 Art Since 1950

ARTH-337 Art Since 1950

(3 cr.)

Repeatable for Credit: No

Developments in painting and sculpture in Europe and America since 1950.

Prerequisite: take ARTH-224 with a grade of C or better

ARTH-339 Japanese Art and Culture

ARTH-339 Japanese Art and Culture

(3 cr.)

Global Perspective

Repeatable for Credit: No

Thematic survey of the art and culture of Japan from pre-history to the present day. Recognition of major styles, appreciation of Eastern cultural ideals, familiarity with influences and borrowings from the West. Class discussions include religion (Shinto, Buddhism), art, culture (tea ceremonies, Kabuki Theater) and literature.

ARTH-340 History of Interactive Media

ARTH-340 History of Interactive Media

(3 cr.)

Repeatable for Credit: No

Survey of historical developments leading to, and in the design of, video games, the Internet, and related media. Must be in a BFA major, Art Ed or GDD major

ARTH-341 History of Film

ARTH-341 History of Film

(3 cr.)

Repeatable for Credit: No

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted filmmakers from around the world.

ARTH-399 Independent Study

ARTH-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ARTH-499 Independent Study

ARTH-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Biology

BIO-101 Introductory Biology

BIO-101 Introductory Biology

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Introduction to the science of biology including life processes, cell biology, genetics, molecular biology, evolution, ecology, plant and animal diversity. Living systems are viewed from the sub-cellular to the community level, emphasizing the diversity, functioning, and interaction of whole organisms.

BIO-111 Science, the Environment and Sustainability

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

BIO-128 Community Health

BIO-128 Community Health

(2 cr.)

Repeatable for Credit: No

Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws.

BIO-130 Human Sexual Biology

BIO-130 Human Sexual Biology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary investigation into human reproductive physiology, from development through reproduction and aging, including contraception and sexually transmitted infections, within a framework of historical context and societal lens.

BIO-132 Human Biology: Our Bodies, Our Health, Our World

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and

disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

BIO-135 Organismal Biology

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-136 College Molecular Cell Biology I

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

BIO-141 Plants and People

BIO-141 Plants and People

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary investigation into the global economic and cultural importance of plants, how aspects of plant biology have played historical roles in shaping societies around the world, and the roles of plants in solving future societal problems. A special course fee applies.

BIO-150 Environmental Science

BIO-150 Environmental Science

(2 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The relationship of humans to the natural environment. Study of ecological principles in relation to contemporary problems such as resource utilization, human population dynamics, waste and pollution control.

BIO-199 Independent Study

BIO-199 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

BIO-220 Physiology of Disabilities

BIO-220 Physiology of Disabilities

(3 cr.)
Repeatable for Credit: No
Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders.
Prerequisites: BIO-132 or BIO-234

BIO-226 Contagious Diseases

BIO-226 Contagious Diseases

(3 cr.)
Global Perspective, Analytic Reasoning & Natural Sciences - Natural Science, Cross-disciplinary Issues, Social Responsibility & Ethical Reasoning
Repeatable for Credit: No
Survey of contagious diseases in humans. Includes pathogen types, transmission mechanisms, the human microbiome, and past and future epidemics. Historical and societal impacts of infectious agents as well as strategies of treatment and prevention. Contrasts of cultural approaches to contagious diseases worldwide. Role of education in preventing infections.

BIO-234 Physiology and Anatomy

BIO-234 Physiology and Anatomy

(4 cr.)
Analytic Reasoning and Natural Sciences - Natural Science with Lab
Repeatable for Credit: No
The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.
Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

BIO-235 Molecular Cell Biology II

BIO-235 Molecular Cell Biology II

(4 cr.)
Repeatable for Credit: No
Examination of molecular and cellular basis of eukaryotic life forms. Focus on bioenergetics, gene expression, signal transduction, and cancer. Laboratory manipulation of continuous eukaryotic cell lines.
Prerequisites: take BIO 136 and CHEM-136

BIO-242 Botany

BIO-242 Botany

(5 cr.)

Repeatable for Credit: No

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

BIO-250 Chainsaw Safety Certification Levels 1 and 2

BIO-250 Chainsaw Safety Certification Levels 1 and 2

(1 cr.)

Repeatable for Credit: No

Two day field course introducing chainsaw use, maintenance, and safety. Chainsaw parts their function and care; proper care and use of personal protective equipment; creating a pre-fell plan and safety evaluation; and notching, felling, limbing, and bucking techniques. Chainsaw safety certifications will be awarded upon completion.

BIO-252 Zoology

BIO-252 Zoology

(5 cr.)

Repeatable for Credit: No

Investigation of vertebrate and invertebrate animal life, including phylogenetics, systematics, physiology, and behavioral characteristics.

BIO-253 Wildlife Techniques

BIO-253 Wildlife Techniques

(2 cr.)

Repeatable for Credit: No

Methods of wildlife field sampling and identification.

Prerequisite: take BIO 242 or BIO 252

BIO-260 Ichthyology - Wisconsin Fishes

BIO-260 Ichthyology - Wisconsin Fishes

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Introduction to the study of fishes, including morphology, taxonomy, classification, evolution, behavior, and general ecology of fishes. Special emphases on field identification of Wisconsin fishes, management of Wisconsin fish populations, and global conservation of fishes.

BIO-262 Introduction to Industrial Hygiene and Occupational Health

BIO-262 Introduction to Industrial Hygiene and Occupational Health

(3 cr.)

Repeatable for Credit: No

Introduction to the field of industrial hygiene and occupational health. The course focuses concepts, terminology, and methodology in the practice of industrial hygiene and identifies resource materials. The class is intended for students majoring in applied science, environmental science, biology, chemistry or health fields; or students wishing to pursue a graduate degree in risk control, safety, industrial hygiene or toxicology.

BIO-270 Natural History of the Neotropics

BIO-270 Natural History of the Neotropics

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Natural history of neotropical marine and terrestrial systems, including coral reefs and rainforests. Focus on patterns and processes underlying biodiversity of the tropics, including ecological principles, specific adaptations, and taxonomy of tropical biota. Introduction to human cultures of the neotropics and their historical and contemporary impacts on tropical diversity.

BIO-299 Independent Study

BIO-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BIO-306 General Microbiology

BIO-306 General Microbiology

(4 cr.)

Repeatable for Credit: No

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or any CHEM

BIO-322 Plant Pathology

BIO-322 Plant Pathology

(3 cr.)

Repeatable for Credit: No

Principles and concepts of plant pathology, including the impact of plant disease to crop production, environment and society.

Prerequisite: BIO-242

BIO-324 Vascular Plant Taxonomy

BIO-324 Vascular Plant Taxonomy

(4 cr.)

Repeatable for Credit: No

Plant classification, identification, and evolution. Focus on flowering plant families of the Upper Midwest. Field trips and plant collection required.

Prerequisite: BIO-242

BIO-332 Genetics

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-334 Advanced Human Anatomy

BIO-334 Advanced Human Anatomy

(2 cr.)

Repeatable for Credit: No

Cadaver-based regional exploration of human anatomy, including all major organ systems. BIO-334 (this course) and BIO 434 Cadaver Dissection cannot both be used for credit towards degree.

Prerequisite: C or better in BIO 234

BIO-336 Infection and Immunity

BIO-336 Infection and Immunity

(4 cr.)

Repeatable for Credit: No

Examination of the human immune system and infectious diseases including past epidemics as well as emerging infections in society.

Prerequisites: Take either BIO-136 or BIO-306 or CHEM-311

BIO-350 Ecology

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

BIO-352 Restoration Ecology

BIO-352 Restoration Ecology

(4 cr.)

Repeatable for Credit: No

The theory and practice of restoring and managing ecological communities. Laboratory emphasis on creating a management plan for a natural area. Weekend field trip(s) may be required.

Prerequisite: take BIO 350

BIO-355 Entomology

BIO-355 Entomology

(4 cr.)

Repeatable for Credit: No

Biology of insects and related arthropods, with emphasis on evolution, ecology, behavior, biodiversity, morphology, and systematics. Laboratory emphasizes identification and collection.

Prerequisites: Take BIO 111, BIO 135, BIO 136, BIO 141, BIO 242, or BIO 252

BIO-358 Introductory Pharmacology

BIO-358 Introductory Pharmacology

(2 cr.)

Repeatable for Credit: No

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination.

Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system.

Prerequisites: take BIO-132, BIO-234 or CHEM-135

BIO-360 Introduction to Neuroscience

BIO-360 Introduction to Neuroscience

(3 cr.)

Repeatable for Credit: No

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisites: BIO-132 or BIO-234

BIO-361 Psychobiology

BIO-361 Psychobiology

(2 cr.)

Repeatable for Credit: No

Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment.

BIO-362 Advanced Physiology

BIO-362 Advanced Physiology

(3 cr.)

Repeatable for Credit: No

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisites: C or better in BIO-234

BIO-370 Advanced Molecular Biology

BIO-370 Advanced Molecular Biology

(4 cr.)

Repeatable for Credit: No

Theoretical and hypothesis-driven laboratory experience in recombinant DNA and RNA techniques and their applications in biochemistry and molecular biology.

Prerequisites: take BIO-235 and CHEM-201

BIO-386 Introduction to Biostatistical Analysis

BIO-386 Introduction to Biostatistical Analysis

(3 cr.)

Repeatable for Credit: No

Overview of quantitative analytical techniques applied to biological questions using the scientific method. Statistical procedures will encompass descriptive and inferential techniques including graphical display of data, quantitative description, hypothesis testing, and study design as applied to biological and health sciences.

Prerequisites: Take BIO 135, BIO 136, BIO 242, or BIO 252 ; and take MATH 121 or equivalent

BIO-399 Independent Study

BIO-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BIO-400 Molecular and Cellular Basis of Multiple Sclerosis

BIO-400 Molecular and Cellular Basis of Multiple Sclerosis

(1 cr.)

Repeatable for Credit: No

Investigation of the molecular and cellular underpinnings of multiple sclerosis, an autoimmune disorder.

Prerequisite(s): Junior level or higher

BIO-400 Special Topics in Biotechnology

BIO-400 Special Topics in Biotechnology

(1-2 cr.)

Repeatable for Credit: Yes

Topics of current or historical importance in the understanding of biotechnology. Designated topics announced prior to start of semester. May be repeated for elective credit.

Must be Junior level or higher

BIO-425 Proteomics

BIO-425 Proteomics

(3 cr.)

Repeatable for Credit: No

State-of-the-art training in proteomics. Solutions to biological research questions and operation of proteomics equipment such as chromatography devices and mass spectrometers.

Instructor's Consent Required

Prerequisite: take BIO-235 and CHEM-311 (co-enrollment in CHEM-311 is acceptable).

BIO-434 Cadaver Dissection

BIO-434 Cadaver Dissection

(3 cr.)

Repeatable for Credit: No

Detailed regional exploration, through cadaver dissection, of human anatomical structures with emphasis on appendages, thorax and abdomen. Identification of muscles, blood vessels, nerves and organs.

Prerequisites: Senior status and a B or higher in BIO-234 or permission of instructor

BIO-449 Cooperative Education Experience

BIO-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

BIO-450 Aquatic Ecology and Management

BIO-450 Aquatic Ecology and Management

(4 cr.)

Repeatable for Credit: No

Principles of lake ecology, water resources degradation, management, and restoration. Diagnosis of water quality problems and solutions with emphasis on field research techniques, empirical modeling, and nutrient budgetary approaches. Integrated research/service experiences.

Prerequisites: take BIO 350 and CHEM-135

BIO-451 Research Methods in Environmental Science

BIO-451 Research Methods in Environmental Science

(3 cr.)

Repeatable for Credit: No

Application of environmental research methods to original scientific investigations. Development of advanced skill in environmental data collection methods. Proposal of an original research study. Design, implementation, analysis, and interpretation of study results. Dissemination of research to a broader audience in both written and oral forms.

Prerequisites: Take BIO 350, BIO 386, or STAT 320; take ENGL 410 or concurrent enrollment

BIO-452 Wetland Ecology and Delineation

BIO-452 Wetland Ecology and Delineation

(4 cr.)

Repeatable for Credit: No

Physical, biological, and biogeochemical processes that influence wetland systems. Wetland permitting, management, and restoration. Wetland delineation, including classification, hydrology, soils identification, and plant identification.

Prerequisites: take BIO-242 or BIO 252 , and take CHEM-135

BIO-460 Epidemiology

BIO-460 Epidemiology

(3 cr.)

Repeatable for Credit: No

Principles of epidemiology, determinants of major public health problems including infectious and chronic diseases, environmental health, and emerging threats.

Prerequisites: take BIO 386 or STAT-320

BIO-470 Advanced Biotechnology

BIO-470 Advanced Biotechnology

(5 cr.)

Repeatable for Credit: No

Molecular biotechnology, including manipulation of prokaryotic and eukaryotic cells, computer analysis of genomic and proteomic data, and applications in the biotechnology industry.

Instructor's Consent Required

Prerequisites: take BIO-235 and BIO 370

BIO-489 Advanced Biology Experience

BIO-489 Advanced Biology Experience

(1-4 cr.)

Repeatable for Credit: Yes

Experiences leading to deeper understanding of biological principles.

Instructor's Consent Required

Must be Junior level or higher

BIO-493 Bioinformatics Practicum

BIO-493 Bioinformatics Practicum

(3 cr.)

Repeatable for Credit: No

Experiences leading to deeper understanding of bioinformatics through participation in a "linked-courses" interdisciplinary learning community. Students will complete a faculty-advised semester research project, write a senior thesis describing their project, present the results in an appropriate research forum, and participate in the learning community journal club.

Prerequisite: take MSCS-492

BIO-499 Independent Study

BIO-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Accounting

BUACT-149 Cooperative Education Experience

BUACT-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUACT-200 Financial-Managerial Accounting- Engineering Technology

BUACT-200 Financial-Managerial Accounting- Engineering Technology

(2 cr.)

Repeatable for Credit: No

Survey of financial accounting concepts for a sole proprietorship, partnership, and corporation. Managerial accounting concepts will be covered in use of the annual report, with emphasis on financial statement analysis.

BUACT-201 Financial-Managerial Accounting

BUACT-201 Financial-Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Managerial accounting concepts will be covered in the use of the annual report, with emphasis on financial statement analysis including the cash flow statement and budgets. *BS Engineering Technology, Industrial Management, Applied Science and Graphic Communication Management students only.*

BUACT-206 Introduction to Financial Accounting

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUACT-249 Cooperative Education Experience

BUACT-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUACT-299 Independent Study

BUACT-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUACT-312 Cost Accounting

BUACT-312 Cost Accounting

(3 cr.)

Repeatable for Credit: No

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting.

Prerequisite: take BUACT-206

BUACT-320 Income Tax Accounting

BUACT-320 Income Tax Accounting

(3 cr.)

Repeatable for Credit: No

Introduction of accounting and legal concepts underlying individual federal income tax laws applicable to gross income, exclusions, business and non-business deductions, gains and losses, credits and tax computations.

Prerequisite: take BUACT-206

BUACT-335 Accounting for Management Decisions

BUACT-335 Accounting for Management Decisions

(3 cr.)

Repeatable for Credit: No

Principles, techniques and use of accounting information to make management decisions in planning, operating and controlling activities of a business.

Prerequisite: take BUACT-207

BUACT-340 Business Finance

BUACT-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisite: take BUACT 207, STAT 130 (or higher), and MATH 123 (or higher)

BUACT-346 Seminar

BUACT-346 Seminar

(1-3 cr.)

Repeatable for Credit: Yes

Current Topics in business. (Title will reflect specific business content.)

BUACT-349 Cooperative Education Experience

BUACT-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUACT-399 Independent Study

BUACT-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUACT-410 Manufacturing Cost Analysis

BUACT-410 Manufacturing Cost Analysis

(3 cr.)

Repeatable for Credit: No

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer.

Prerequisites: take BUACT 201 or BUACT 206

BUACT-449 Cooperative Education Experience

BUACT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUACT-498 Business Accounting Field Experience

BUACT-498 Business Accounting Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

Department Consent

BUACT-499 Independent Study

BUACT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Finance

BUFIN-227 Financial Wellness

BUFIN-227 Financial Wellness

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Application of fundamental concepts utilized in making responsible financial decisions in every-day life with a focus on understanding psychological factors that influence financial decisions. Topics include goal setting, money management, spending, saving, and awareness of the biases inherent in financial decision-making processes today and in the future.

BUFIN-340 Business Finance

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

Business International Business

BUINB-149 Cooperative Education Experience

BUINB-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUINB-249 Cooperative Education Experience

BUINB-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUINB-260 International Business

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BUINB-299 Independent Study

BUINB-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUINB-338 International Logistics

BUINB-338 International Logistics

(3 cr.)

Repeatable for Credit: No

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills.

Prerequisites: take BUSCM-338

BUINB-346 Seminar

BUINB-346 Seminar

(3 cr.)

Global Perspective

Repeatable for Credit: No

Theory and practice of doing business in India by experiencing the culture first-hand. (Study abroad)

BUINB-349 Cooperative Education Experience

BUINB-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUINB-367 International Management

BUINB-367 International Management

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: Take BUMGT-304

BUINB-399 Independent Study

BUINB-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUINB-449 Cooperative Education Experience

BUINB-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUINB-485 International Marketing

BUINB-485 International Marketing

(3 cr.)

Repeatable for Credit: No

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms.

Prerequisites: take BUMKG-330

BUINB-488 International Business Practicum

BUINB-488 International Business Practicum

(3 cr.)

Repeatable for Credit: No

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability.

Department Consent

Prerequisite: take BUINB-485

BUINB-489 International Business Policies

BUINB-489 International Business Policies

(3 cr.)

Repeatable for Credit: No

Students develop the ability to solve business problems in the international arena using a scientific approach to decision making by studying business cases on international policy formulation and administration, manufacturing, marketing, finance, accounting, personnel and public relations functions.

Prerequisites: Take any BUINB course; and take either BUMGT-304 or BUMKG-330 or BUFIN 340 ; and take either ECON-201 or ECON-210

BUINB-499 Independent Study

BUINB-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Legal

BULGL-149 Cooperative Education Experience

BULGL-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BULGL-249 Cooperative Education Experience

BULGL-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BULGL-299 Independent Study

BULGL-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BULGL-318 Business Law I

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

BULGL-319 Business Law II

BULGL-319 Business Law II

(3 cr.)

Repeatable for Credit: No

A continuation of Business Law I; includes property, secured transactions, bankruptcy, estates, commercial paper, partnerships, and corporations.

Prerequisites: take BULGL-318

BULGL-346 Seminar

BULGL-346 Seminar

(1-3 cr.)

Repeatable for Credit: Yes

Current Topics in business. (Title will reflect specific business content.)

BULGL-349 Cooperative Education Experience

BULGL-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BULGL-399 Independent Study

BULGL-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BULGL-401 Legal Environment of Business

BULGL-401 Legal Environment of Business

(3 cr.)

Repeatable for Credit: No

Legal influences and the changing relationship of government and industry: regulatory legislation, ethical implications, administrative agencies, national policies and social control.

BULGL-449 Cooperative Education Experience

BULGL-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BULGL-473 Legal Aspects of Construction

BULGL-473 Legal Aspects of Construction

(3 cr.)

Repeatable for Credit: No

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker.

BULGL-499 Independent Study

BULGL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Management

BUMGT-100 Introduction to Business Administration

BUMGT-100 Introduction to Business Administration

(1 cr.)

Repeatable for Credit: No

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities.

BUMGT-149 Cooperative Education Experience

BUMGT-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMGT-235 Management Ethics

BUMGT-235 Management Ethics

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical issues organizational decision-makers face in developing stakeholder policies. Understanding essential ethical theories in

relation to a broad array of management functions, concepts of corporate social responsibility and development of organizational ethics programs.

BUMGT-249 Cooperative Education Experience

BUMGT-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMGT-296 Experience China: Global Business and Society

BUMGT-296 Experience China: Global Business and Society

(3 cr.)

Repeatable for Credit: No

Introduction to values that serve as the foundation for American business organizations, the impact on our global economy, and business response to the challenges of globalization.

BUMGT-299 Independent Study

BUMGT-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUMGT-304 Principles of Management

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMGT-346 Seminar: Arts and Innovation - A Scandinavian Experience

BUMGT-346 Seminar: Arts and Innovation - A Scandinavian Experience

(3 cr.)

Global Perspective

Repeatable for Credit: No

Study abroad course. Exploration of concepts related to economic development and quality of life, via Swedish innovation and culture. Design thinking, innovation in business and society, ideation, customer discovery, prototyping, pitching, start-up development, and the role of government, industry, and academia in the support and sustainability of an entrepreneurial eco-system.

Prerequisite: Must have 24 or more credits and 2.5 GPA or better

BUMGT-349 Cooperative Education Experience

BUMGT-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMGT-380 Principles of Entrepreneurship and Innovation

BUMGT-380 Principles of Entrepreneurship and Innovation

(3 cr.)

Repeatable for Credit: No

Introduction to the world and mindset of entrepreneurship. Foundations of innovation and entrepreneurship theories. Development of insight and practical tools to identify problems, innovate creatively, test ideas, model businesses, build start up teams, and present business ideas.

Prerequisite(s): BUFIN 227 or BUACT 206

BUMGT-398 Business Administration Field Experience

BUMGT-398 Business Administration Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

Department Consent

BUMGT-399 Independent Study

BUMGT-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUMGT-449 Cooperative Education Experience

BUMGT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMGT-480 Entrepreneurship: Small Business Planning

BUMGT-480 Entrepreneurship: Small Business Planning

(3 cr.)

Repeatable for Credit: No

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business-- start-up, buy out, franchise--legal and financial aspects. Preparing a business plan required.

Prerequisite: take BUMKG-330 or BUACT-206 or BUACT-200

BUMGT-489 Business and Industrial Internship

BUMGT-489 Business and Industrial Internship

(1-8 cr.)

Repeatable for Credit: Yes

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session.

Department Consent

Must be Junior level or higher

BUMGT-490 Strategic Management and Business Policy

BUMGT-490 Strategic Management and Business Policy

(3 cr.)

Repeatable for Credit: No

Formulate, implement, and evaluate strategies in the context of a dynamic, global business environment. Optimize critical thinking, reasoning, problem solving and presentation skills while becoming familiar with the knowledge, roles, and responsibilities required of managers.

Prerequisites: Must be Senior level or higher; take BUMKG-330 and BUFIN 340 ; and take ECON-201 or ECON-210

BUMGT-498 Business Administration Field Experience

BUMGT-498 Business Administration Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

Department Consent

BUMGT-499 Independent Study

BUMGT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Management Information Systems

BUMIS-149 Cooperative Education Experience

BUMIS-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMIS-249 Cooperative Education Experience

BUMIS-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMIS-299 Independent Study

BUMIS-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUMIS-333 Management Information Systems - Decision Support Systems

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

BUMIS-346 Seminar

BUMIS-346 Seminar

(1-3 cr.)

Repeatable for Credit: Yes

Current Topics in business. (Title will reflect specific business content.)

BUMIS-349 Cooperative Education Experience

BUMIS-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMIS-399 Independent Study

BUMIS-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUMIS-449 Cooperative Education Experience

BUMIS-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMIS-499 Independent Study

BUMIS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Marketing

BUMKG-149 Cooperative Education Experience

BUMKG-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMKG-249 Cooperative Education Experience

BUMKG-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMKG-299 Independent Study

BUMKG-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUMKG-330 Principles of Marketing

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the

marketing activities.

BUMKG-334 Professional Selling and Market Development

BUMKG-334 Professional Selling and Market Development

(3 cr.)

Repeatable for Credit: No

Overview of selling as a profession; building relationships; the selling process, including prospecting, preparing, presenting, handling objections, closing, and servicing accounts; developing markets; and territory management.

Prerequisites: take BUMKG-330

BUMKG-335 Sales Management

BUMKG-335 Sales Management

(3 cr.)

Repeatable for Credit: No

Comprehensive survey of sales force management; organizing, staffing, and training a sales force; directing sales force operations; sales planning; and evaluating sales performance.

Prerequisite: take BUMKG-334

BUMKG-346 Seminar

BUMKG-346 Seminar

(1-3 cr.)

Repeatable for Credit: Yes

Current Topics in business marketing. (Title will reflect specific content.)

BUMKG-349 Cooperative Education Experience

BUMKG-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUMKG-350 Digital Marketing Strategy and Practice

BUMKG-350 Digital Marketing Strategy and Practice

(3 cr.)

Repeatable for Credit: No

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans.

BUMKG-370 Integrated Marketing Communications

BUMKG-370 Integrated Marketing Communications

(3 cr.)

Repeatable for Credit: No

Fundamentals of integrated marketing communications; integration of elements of the promotional mix, including advertising, sales promotions, public relations, online marketing, social media and other modern methods of marketing communication.

Prerequisites: take BUMKG-330

BUMKG-385 Target Marketing

BUMKG-385 Target Marketing

(3 cr.)

Repeatable for Credit: No

The study and application of methods used to identify viable market segments; use of demographic, psychographic and cultural research findings to successfully market products and services to various market segments.

Prerequisites: take BUMKG-330

BUMKG-391 Principles of Social Media Marketing Management

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

BUMKG-399 Independent Study

BUMKG-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BUMKG-425 Principles of Mobile Marketing

BUMKG-425 Principles of Mobile Marketing

(3 cr.)

Repeatable for Credit: No

How mobile marketing is defining business today, including strategy, tracking return on investment (ROI), advertising, applications and mobile websites. Text messaging, quick response (QR) codes, consumer interactions with mobile devices, and the laws and ethics of mobile marketing are explored.

Prerequisites: take BUMKG 330 and ICT 103

BUMKG-436 Marketing Management

BUMKG-436 Marketing Management

(3 cr.)

Repeatable for Credit: No

Comprehensive exploration and practical application of marketing activities used to create customer value and marketplace exchanges benefiting the organization and its stakeholders; planning and execution of conception, pricing, promotion, and distribution of ideas, goods, and/or services for an enterprise.

Prerequisites: take BUMKG-330 and BUACT-207

BUMKG-479 Marketing Research

BUMKG-479 Marketing Research

(3 cr.)

Repeatable for Credit: No

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management.

Prerequisites: take BUMKG-330 & either STAT 130, STAT-320, or STAT-331

BUMKG-499 Independent Study

BUMKG-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Retail

BURTL-105 Introduction to Retail Merchandising & Management

BURTL-105 Introduction to Retail Merchandising & Management

(1 cr.)

Repeatable for Credit: No

Explore structure, trends and careers in the retail business. Understand the requirements for earning a degree in Retail Merchandising and Management, and identify resources designed to help students succeed at UW-Stout.

BURTL-127 Basic Merchandising

BURTL-127 Basic Merchandising

(3 cr.)

Repeatable for Credit: No

Analyzing the retailing process, the environment within which it operates, and the institutions and functions that are performed. A foundation for students who plan to work in retailing or related disciplines.

BURTL-149 Cooperative Education Experience

BURTL-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BURTL-212 Trend Tracking and Forecasting

BURTL-212 Trend Tracking and Forecasting

(3 cr.)

Repeatable for Credit: No

Tracking and forecasting of product and consumer trends based on product lifecycle trends, fashion theories, socioeconomic and cultural factors, lifestyles, psychographic and demographic trends in the marketplace.

BURTL-229 Visual Merchandising

BURTL-229 Visual Merchandising

(3 cr.)

Repeatable for Credit: No

Specialized study and application of merchandise/ product presentation techniques for individual displays and store designs. Interpreting basic design elements and principles for display; selecting and using of appropriate tools, fixtures, and materials; coordinating visual presentations and other promotional activities to achieve marketing objectives.

BURTL-249 Cooperative Education Experience

BURTL-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BURTL-299 Independent Study

BURTL-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

BURTL-319 International Economic Trends in Textiles and Clothing

BURTL-319 International Economic Trends in Textiles and Clothing

(3 cr.)

Repeatable for Credit: No

Economic importance of the textile and apparel industries in the United States and the world.

Prerequisites: take APRL 167 and ECON-210

BURTL-327 Store Management

BURTL-327 Store Management

(3 cr.)

Repeatable for Credit: No

Develop management skills for retail stores of varying size.

Prerequisites: take BURTL 390

BURTL-329 Retail Promotions

BURTL-329 Retail Promotions

(3 cr.)

Repeatable for Credit: No

Planning and execution of all the promotional messages used to communicate with members of a target market.

Prerequisite: take BURTL-127

BURTL-335 Special Topics in Retail Merchandising and Management

BURTL-335 Special Topics in Retail Merchandising and Management

(1-3 cr.)

Repeatable for Credit: Yes

BURTL-349 Cooperative Education Experience

BURTL-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BURTL-390 Merchandise Planning and Control

BURTL-390 Merchandise Planning and Control

(4 cr.)

Repeatable for Credit: No

Techniques for financial and unit planning, procurement and control of inventories for successful retail operations.

Prerequisites: Complete any GE Math course and BUACT-206

BURTL-395 Assortment Planning

BURTL-395 Assortment Planning

(3 cr.)

Repeatable for Credit: No

Methods of optimizing retail product assortments to gain a competitive advantage

Prerequisites: take BURTL-390 and APRL 272

BURTL-398 Field Experience

BURTL-398 Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries.

Department Consent

BURTL-399 Independent Study

BURTL-399 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

BURTL-417 Social/Psychological Aspects of Clothing

BURTL-417 Social/Psychological Aspects of Clothing

(3 cr.)
Repeatable for Credit: No
Social and psychological influence of dress on individual and group behavior patterns.

BURTL-419 National Study Tour to Fashion Industry

BURTL-419 National Study Tour to Fashion Industry

(1 cr.)
Repeatable for Credit: 4 times for maximum 4 credits
Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market.
Department Consent
Must be Junior level or higher

BURTL-425 Current Retail Strategies for a Differential Advantage

BURTL-425 Current Retail Strategies for a Differential Advantage

(2 cr.)
Repeatable for Credit: No
Comparative analysis of specific retail corporations' strategies to gain a differential advantage with their merchandising and operational methodology.
Prerequisites: Must be Senior level and have taken BURTL-127

BURTL-426 Fashion Retailing Practicum

BURTL-426 Fashion Retailing Practicum

(4 cr.)
Repeatable for Credit: No
Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment.
Prerequisites: take BURTL-329 and BURTL-390

BURTL-449 Cooperative Education Experience

BURTL-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BURTL-449F Retail Co-Op Education/Internship

BURTL-449F Retail Co-Op Education/Internship

(1-6 cr.)

Repeatable for Credit: No

Full-time work and training in an approved position at a pre-selected business related to the student's major. Selection by application and interview.

Department Consent

Prerequisites: take BURTL-398, must be a Senior, and must have a 2.5 GPA in professional core courses.

BURTL-450 Retail Practicum I

BURTL-450 Retail Practicum I

(3 cr.)

Repeatable for Credit: No

Strategic planning for merchandising and operating the retail laboratory store to include market analysis, assortment planning, product development, merchandise procurement, promotional planning, merchandise presentation, and store layout needed for the long-term success of a retail business.

Prerequisites: take BURTL-390

BURTL-451 Retail Practicum II

BURTL-451 Retail Practicum II

(3 cr.)

Repeatable for Credit: No

Structured experience in executing the long-term and seasonal strategic plans developed in Retail Practicum I, to include the evaluation of retail performance and projections for continuing operation of the retail laboratory store.

Prerequisites: take BURTL-450

BURTL-477 Study Abroad - American Fashion College

BURTL-477 Study Abroad - American Fashion College

(16 cr.)

Repeatable for Credit: No

A program for selected students which offers an opportunity to study at the American Fashion College in London with the opportunity to travel in Europe.

Department Consent

Must have 2.5 GPA in Professional core and must be Apparel/Design & Development or Retail Merchandise/Management major.

BURTL-490 Advanced Merchandise Planning Control

BURTL-490 Advanced Merchandise Planning Control

(3 cr.)

Repeatable for Credit: No

Application of merchandise theory and techniques to budget, manage, and adjust actual purchases, inventory, and sales of an actual retail business.

Prerequisite: take BURTL-390 with a "B" (3.0) or better.

BURTL-498 Field Experience

BURTL-498 Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries.

Department Consent

BURTL-499 Independent Study

BURTL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Business Supply Chain Management

BUSCM-100 Introduction to Supply Chain Management

BUSCM-100 Introduction to Supply Chain Management

(1 cr.)

Repeatable for Credit: No

Overview of the B.S. in Supply Chain Management with emphasis on planning, career opportunities, and emerging trends.

BUSCM-249 Cooperative Education Experience

BUSCM-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUSCM-338 Principles of Logistics

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330

BUSCM-341 Global Supply Chain Modeling and Optimization

BUSCM-341 Global Supply Chain Modeling and Optimization

(1 cr.)

Repeatable for Credit: No

Introduction to problem solving and design techniques used to ensure the optimal operation of the supply chain, considering the relative changes to variables and the impact on overall costs. Advanced spreadsheet toolsets will enable the supply chain problem-solving and design techniques.

BUSCM-349 Cooperative Education Experience

BUSCM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUSCM-437 Procurement, Sourcing and Supply Chain Management

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

BUSCM-439 Seminar: Supply Chain Systems Design

BUSCM-439 Seminar: Supply Chain Systems Design

(3 cr.)

Repeatable for Credit: No

Synthesizing experience in supply chain, cases, problems and team/individual research will focus on analyzing, designing and modeling cost effective supply chain systems that utilize innovative technology and business practices for procuring, manufacturing, storing, and moving goods from suppliers, manufacturers, distributors, retailers and end customer.

Prerequisites: take BUSCM 338 and INMGT-305

BUSCM-449 Cooperative Education Experience

BUSCM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUSCM-458 Negotiation and Contracts

BUSCM-458 Negotiation and Contracts

(3 cr.)

Repeatable for Credit: No

Processes, analysis, techniques and strategies used to negotiate and develop contracts. Defining roles and importance of relationships. Identifying interests, developing and using power, creating and evaluating criteria, exploring options, analyzing offers, dealing with objections and impasses, reaching final agreement. Converting business agreements into contracts. Importance of fairness and ethics.

Prerequisite: take BUSCM 437

BUSCM-460 Supply Chain Management Design I Capstone

BUSCM-460 Supply Chain Management Design I Capstone

(4 cr.)

Repeatable for Credit: No

Synthesizing capstone experience focuses on planning, diagnosing and analyzing root causes of poor supply chain cost, service and operational performance. Students analyze and diagnose supply chains for strategy, organization, process, technology, business models, best practices, and information and material flow.

Prerequisites: take BUSCM-338, INMGT 296 , INMGT-320, INMGT 350, INMGT-365, INMGT-405, BUSCM-437, and BUACT 312.

BUSCM-461 Supply Chain Management Design II Capstone

BUSCM-461 Supply Chain Management Design II Capstone

(4 cr.)

Repeatable for Credit: No

Continuation of Supply Chain Design I focusing on design, model and recommended integrated supply chain solutions from the perspective of strategy, people, technology, business models, and best practices for managing the flow of goods and information across the supply chain.

Prerequisite: take BUSCM-460

Career and Technical Education

CTE-149 Cooperative Education Experience

CTE-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

International students majoring in Vocational, Technical and Adult Education will participate in an internship located in both industrial/business and vocational/technical institutions to have experience in their technical area.

Department Consent

CTE-198 Field Experience

CTE-198 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

CTE-199 Independent Study

CTE-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CTE-249 Cooperative Education Experience

CTE-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

International students majoring in Vocational, Technical and Adult Education will participate in an internship located in both industrial/business and vocational/technical institutions to have experience in their technical area.

Department Consent

CTE-298 Field Experience

CTE-298 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

CTE-299 Independent Study

CTE-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CTE-301 Preservice Workshop for Career and Technical Educators

CTE-301 Preservice Workshop for Career and Technical Educators

(1 cr.)

Repeatable for Credit: No

Introduction to the basic concepts of teaching courses in Wisconsin career and technical education.

CTE-302 Principles of Career and Technical Education

CTE-302 Principles of Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Importance of career and technical education (workforce education) to American society and the individual. Actively apply principles into practice. Formulate a philosophy of workforce education based on personally held principles and demonstrated practices.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

CTE-304 Introduction for K-12 Career and Technical Educators

CTE-304 Introduction for K-12 Career and Technical Educators

(1 cr.)

Repeatable for Credit: No

Introductory course focused on becoming a teacher in the disciplines of Marketing Education, Business Education, Family and Consumer Sciences and Technology Education within K-12 schools.

Prerequisites: Enrollment in Certificate for Practical Skills for Beginning K-12 CTE Educators

CTE-310 Foundations of Health Sciences Occupations Education

CTE-310 Foundations of Health Sciences Occupations Education

(3 cr.)

Repeatable for Credit: No

The philosophy, organization and administration of health science occupations education at the national, state and local level; includes current topics in health science occupations education with application for personnel in the field.

CTE-312 Pre-Student Teaching in PK-12 CTE Subject Area

CTE-312 Pre-Student Teaching in PK-12 CTE Subject Area

(1 cr.)

Repeatable for Credit: No

Planned experiences within PK-12 classrooms; identification and application of principles, concepts, and strategies acquired in program professional courses. Includes observation of teaching, planning for teaching, teaching, assessment of student learning, and reflection on teaching.

Prerequisite: Completion of Benchmark I

CTE-320 Careers in Health Care

CTE-320 Careers in Health Care

(3 cr.)

Repeatable for Credit: No

Investigation of health care delivery system, services, occupations, related health services, and the health sciences career clusters.

CTE-330 Curriculum Planning in Health Science Occupations

CTE-330 Curriculum Planning in Health Science Occupations

(3 cr.)

Repeatable for Credit: No

Competency-based and individualized approaches to principles of curriculum and course construction, study of curriculum terminology, methods of selecting and organizing content for health science occupations educators.

CTE-334 Performance Analysis

CTE-334 Performance Analysis

(3 cr.)

Repeatable for Credit: No

Analysis techniques utilized in curriculum development. Emphasis on task analysis and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising career and technical education curriculum or job training programs.

CTE-337 Competency-Based Education: Career and Technical

CTE-337 Competency-Based Education: Career and Technical

(2 cr.)

Repeatable for Credit: No

Competencies for career, technical and adult education programs and courses. Development of competency-based education performance indicators in all domains, a competency-based education management system, and basis for competency-based education evaluation.

CTE-346 Seminar

CTE-346 Seminar

(1-3 cr.)

Repeatable for Credit: No

Current Topics in career, technical and adult education with application for personnel in the field.

Instructor's Consent Required

CTE-346 Seminar: Aligning Career and Technical Education Curricula

CTE-346 Seminar: Aligning Career and Technical Education Curricula

(2 cr.)

Repeatable for Credit: No

Current topics in career, technical, and adult education with application for personnel in the field. Aligning secondary and postsecondary career and technical education curricula based on career pathways.

CTE-346 Seminar: Sustainable Concepts Infusion I

CTE-346 Seminar: Sustainable Concepts Infusion I

(1 cr.)

Repeatable for Credit: No

Understanding and implementation of a sustainable culture. Development of implementation strategies for sustainable concepts infusion within instructional courses. Implementation and assessment of developed plans.

CTE-346 Seminar: Sustainable Concepts Infusion II

CTE-346 Seminar: Sustainable Concepts Infusion II

(1 cr.)

Repeatable for Credit: No

Understanding and implementation of a sustainable culture. Development of implementation strategies for sustainable concepts infusion within instructional courses. Implementation and assessment of developed plans.

CTE-349 Cooperative Education Experience

CTE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

International students majoring in Vocational, Technical and Adult Education will participate in an internship located in both industrial/business and vocational/technical institutions to have experience in their technical area.

Department Consent

CTE-359 Technology Impacts Occupational Programs

CTE-359 Technology Impacts Occupational Programs

(4 cr.)

Repeatable for Credit: Yes

Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involve concepts from math, science and computer science.

CTE-360 Coordination of Work-based Learning (WBL) Programs

CTE-360 Coordination of Work-based Learning (WBL) Programs

(3 cr.)

Repeatable for Credit: No

Philosophy, planning, initiation, organization, coordination, evaluation, and teaching techniques of Cooperative Career and Technical Education (C-CTE) programs. Special emphasis on roles, responsibilities and duties of the cooperative teacher-coordinator.

CTE-370 Instructional Technology - Education and Training

CTE-370 Instructional Technology - Education and Training

(2 cr.)

Repeatable for Credit: No

Technological applications to education, training and instruction. Emphasis on examining, developing and evaluating various technologies and their appropriateness for the curriculum and training applications.

CTE-375 Academic & Career Planning Introduction & Implementation

CTE-375 Academic & Career Planning Introduction & Implementation

(2 cr.)

Repeatable for Credit: No

Study of the Academic and Career Planning (ACP) process in Wisconsin. Distinguish between the ACP PROCESS that helps students engage in academic and career development activities and the PRODUCT that is created and maintained for students' academic, career, and personal advancement. Examine shifts in thinking, approach, and delivery of career development necessary for successful ACP implementation within local school districts.

CTE-375 Addressing the Skills Gap with Pathways and Partnerships

CTE-375 Addressing the Skills Gap with Pathways and Partnerships

(1 cr.)

Repeatable for Credit: No

Connection of classroom practices with education-industry partnerships and pathways to address America's skill gap. Includes industry tours, keynote addresses and workshop activities tied with the American Technical Education Association's stated goals. Course coordinated via Credit Outreach for students attending the ATEA 2018 National Conference.

Prerequisite: Attendance at ATEA 2018 National Conference

CTE-375 Digital Print Reading: A Turn-Key CAD/CAM Curriculum

CTE-375 Digital Print Reading: A Turn-Key CAD/CAM Curriculum

(1 cr.)

Repeatable for Credit: No

Digital Print Reading structured around a workforce/classroom of essential shop-floor skills detailing functional lines, layout geometry, quality control measurements (rubrics), and standards in computer assisted manufacturing, geometric tolerancing, and basic metrology.

CTE-375 Workshop

CTE-375 Workshop

(1-3 cr.)

Repeatable for Credit: Yes

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop.

CTE-396 Foundations of Correctional Education

CTE-396 Foundations of Correctional Education

(2 cr.)

Repeatable for Credit: No

History of correctional education, as well as trends and current issues; the unique setting of correctional education and how to minimize its negative impact on correctional educators.

CTE-398 Field Experience

CTE-398 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

CTE-399 Independent Study

CTE-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CTE-405 Methods of Teaching Career and Technical Education

CTE-405 Methods of Teaching Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching career and technical education.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

No prerequisite for CTET students who enroll for 2 credits.

CTE-408 Student Teaching in Career and Technical Education

CTE-408 Student Teaching in Career and Technical Education

(1-4 cr.)

Repeatable for Credit: Yes

Application of teaching and learning knowledge and skills to a post-secondary education or training institution setting.

Department Consent

CTE-438 Course Construction in Career and Technical Education

CTE-438 Course Construction in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Focus on curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates' CTE program area. Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

CTE-440 Instructional Evaluation in Career and Technical Education

CTE-440 Instructional Evaluation in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to instructional evaluation for career and technical educators. Prepares educators to design and implement performance-based assessment in diverse formats and settings that evidence student learning.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

CTE-449 Cooperative Education Experience

CTE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

International students majoring in Vocational, Technical and Adult Education will participate in an internship located in both industrial/business and vocational/technical institutions to have experience in their technical area.
Department Consent

CTE-460 Data Responsive Planning, Teaching and Assessment

CTE-460 Data Responsive Planning, Teaching and Assessment

(3 cr.)

Repeatable for Credit: No

Teaching, planning and assessment of student learning through curriculum-based evidence collection and analysis in an effort to monitor and revise lessons, strategies, assessments (formative and summative), courses and programs.

CTE-474 Adult Education

CTE-474 Adult Education

(2 cr.)

Repeatable for Credit: No

Philosophy and history of adult education in the United States. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics.

CTE-488 Career and Technical Education Internship

CTE-488 Career and Technical Education Internship

(1-8 cr.)

Repeatable for Credit: No

Department Consent

CTE-498 Field Experience

CTE-498 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

CTE-499 Independent Study

CTE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Chemistry

CHEM-105 Visualizing Chemistry

CHEM-105 Visualizing Chemistry

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Simple demonstrations that illustrate and reinforce understanding of the physical and chemical properties of matter. Description of the underlying chemistry and chemical safety. A special course fee applies.

CHEM-110 Chemistry in Our World

CHEM-110 Chemistry in Our World

(4 cr.)

Cross-disciplinary Issues, Analytic Reasoning and Natural Sciences - Natural Sciences with Lab

Repeatable for Credit: No

Fundamental role of chemistry in our daily lives focusing on contemporary issues to introduce chemical concepts, developing these concepts in a concerted manner to gain understanding of the issues.

Requires Math proficiency greater than or equal to MATH-90

CHEM-115 General Chemistry

CHEM-115 General Chemistry

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles of chemistry with applications: composition and structure of matter, formation and naming of compounds, mole concept, writing and balancing chemical equations, types of reactions, elementary stoichiometry, bonding, states of matter, equilibrium, solutions, acids and bases.

Math Placement or MATH-90 required.

CHEM-135 College Chemistry I

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-199 Independent Study

CHEM-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CHEM-201 Organic Chemistry I

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-204 Organic Chemistry II Lecture

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-206 Organic Chemistry II Laboratory

CHEM-206 Organic Chemistry II Laboratory

(1 cr.)

Repeatable for Credit: No

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound

synthesis.

Prerequisite: take CHEM-201; Corequisite: take CHEM-204

CHEM-249 Cooperative Education Experience

CHEM-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Instructor's Consent Required

CHEM-299 Independent Study

CHEM-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CHEM-301 Physical Chemistry Lecture

CHEM-301 Physical Chemistry Lecture

(3 cr.)

Repeatable for Credit: No

Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with CHEM 303. Students may incur incidental expenses for software.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135, and take MATH-156;

Corequisite: CHEM-303

CHEM-303 Physical Chemistry Laboratory

CHEM-303 Physical Chemistry Laboratory

(1 cr.)

Repeatable for Credit: No

Lab course to be taken concurrently with CHEM 301. Experimental techniques and apparatus; treatment of experimental data.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135, and take MATH-156;

Corequisite: take CHEM-301

CHEM-311 Biochemistry

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

CHEM-321 Physical Chemistry

CHEM-321 Physical Chemistry

(4 cr.)

Repeatable for Credit: No

Foundations of thermodynamics and kinetics. Topics include laws of thermodynamics, states of matter and transformations, equilibrium, Gibbs free energy, prediction of spontaneous reactions, reaction rates, rate laws, and transition states.

Prerequisite(s): take CHEM 136 and MATH 153 or MATH 156

CHEM-325 Chemistry of Polymers

CHEM-325 Chemistry of Polymers

(4 cr.)

Repeatable for Credit: No

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135

CHEM-331 Quantitative Analysis

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-341 Chemistry of Materials

CHEM-341 Chemistry of Materials

(4 cr.)

Repeatable for Credit: No

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

CHEM-349 Cooperative Education Experience

CHEM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CHEM-353 Environmental Chemistry

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-365 Industrial Chemistry

CHEM-365 Industrial Chemistry

(3 cr.)

Repeatable for Credit: No

Chemistry of industrial processes used in the production of organic and inorganic bulk chemicals and further transformation into commercial products. Aspects of intellectual property, business, and environmental concerns will also be discussed.

Prerequisite: take CHEM 136 or CHEM 341

CHEM-399 Independent Study

CHEM-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CHEM-412 Advanced Biochemistry

CHEM-412 Advanced Biochemistry

(3 cr.)

Repeatable for Credit: No

Structure and function of enzymes and membrane-bound proteins, enzyme kinetics and mechanism, and regulatory mechanisms of metabolism at the molecular, cellular and organismal levels.

Prerequisite: take CHEM-311

CHEM-414 Protein Chemistry Laboratory

CHEM-414 Protein Chemistry Laboratory

(2 cr.)

Laboratory experiences in modern protein chemistry techniques, including gel electrophoresis techniques, chromatography, kinetics, ligand binding and spectrometry.

Prerequisite: CHEM 311

CHEM-425 Inorganic Chemistry

CHEM-425 Inorganic Chemistry

(4 cr.)

Repeatable for Credit: No

Survey of inorganic chemistry, including: bonding, symmetry and group theory, molecular orbitals, electronic structure, donor-acceptor chemistry, crystalline solids, main-group chemistry, coordination chemistry, organometallics, bioinorganic chemistry and environmental chemistry.

Prerequisites: CHEM 136 , CHEM 201. Required for students in B.S. in Applied Science and the Industrial Chemistry Concentration.

CHEM-435 Instrumental Methods of Analysis

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

CHEM-440 Advanced Materials Laboratory

CHEM-440 Advanced Materials Laboratory

1-(3 cr.)

Repeatable for Credit: Yes

Student-devised laboratory experiments to solve a materials problem provided by the instructor.

Instructor's Consent Required

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

CHEM-449 Cooperative Education Experience

CHEM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CHEM-452 Environmental Regulations Management

CHEM-452 Environmental Regulations Management

(3 cr.)

Repeatable for Credit: No

Laws governing environmental issues. Environmental regulations, applicability of the laws, and resources for interpreting the regulations. Evaluation of environmental research.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

CHEM-489 Advanced Chemistry Experience

CHEM-489 Advanced Chemistry Experience

(1-4 cr.)

Repeatable for Credit: Yes

Research experiences leading to a greater depth of understanding of chemical principles.

Instructor's Consent Required

Must be Sophomore level or higher

CHEM-499 Independent Study

CHEM-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Chinese

CHIN-101 Elementary Chinese I

CHIN-101 Elementary Chinese I

(4 cr.)

Communication Skills

Repeatable for Credit: No

Elementary modern Mandarin, for students with no previous training.

CHIN-102 Elementary Chinese II

CHIN-102 Elementary Chinese II

(4 cr.)

Communication Skills

Repeatable for Credit: No

Continuation of CHIN 101.
Prerequisite: CHIN 101

CHIN-196 Experience China: Mandarin Language

CHIN-196 Experience China: Mandarin Language

(3 cr.)

Global Perspective, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Introductory reading, writing, listening and speaking skills; and understanding Chinese culture and society.

Department Consent

CHIN-200 Intermediate Chinese I

CHIN-200 Intermediate Chinese I

(4 cr.)

Communication Skills

Repeatable for Credit: No

Build on skills learned in CHIN-102 to improve all four aspects of Chinese language acquisition: speaking, listening, reading and writing.

Prerequisite: take CHIN-102

CHIN-201 Intermediate Chinese II

CHIN-201 Intermediate Chinese II

(4 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Continuation of Elementary Chinese II

Prerequisites: take CHIN 102 or instructor permission

College of Arts, Communication, Humanities and Social Sciences

CAHSS-196 An Interconnected World: Views from the Humanities

CAHSS-196 An Interconnected World: Views from the Humanities

(3 cr.)

Interdisciplinary Studies

Repeatable for Credit: No

Draws on history, literature, drama, philosophy, art, and music in order to examine selected issues or problems that have faced humankind around the world during the past two centuries.

CAHSS-199 Independent Study

CAHSS-199 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

CAHSS-249 Cooperative Education Experience

CAHSS-249 Cooperative Education Experience

1-(8 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.
Department Consent

CAHSS-299 Independent Study

CAHSS-299 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

CAHSS-349 Cooperative Education Experience

CAHSS-349 Cooperative Education Experience

(1-8 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.
Department Consent

CAHSS-399 Independent Study

CAHSS-399 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

CAHSS-449 Cooperative Education Experience

CAHSS-449 Cooperative Education Experience

1-(8 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CAHSS-499 Independent Study

CAHSS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

College of Education, Hospitality, Health and Human Sciences

CEHHS-449 Cooperative Education Experience

CEHHS-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved business/industry position related to the student's major. Selection by application and interview.

Department Consent

CEHHS-499 Independent Study

CEHHS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Computer/Electrical Engineering

CEE-205 Circuit Analysis and Design

CEE-205 Circuit Analysis and Design

(4 cr.)

Repeatable for Credit: No

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real resistors/capacitors/inductors, steady state/transient behavior of circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory.

Prerequisite: take MATH-154 or MATH-157

CEE-215 Electronics

CEE-215 Electronics

(4 cr.)

Repeatable for Credit: No

Introduction to the physics/modeling of semiconductor devices such as diodes and transistors. Biasing, small/large signal circuit behavior, temperature dependence. Differential/multistage/power amplifiers. Time and frequency response of devices and circuits, including operational amplifiers. Discussion of integrated circuit fabrication technology.

Prerequisite: Take CEE-205

CEE-225 Digital Logic

CEE-225 Digital Logic

(3 cr.)

Repeatable for Credit: No

Analysis and design of combinational and sequential logic circuits. Boolean algebra, number systems and logic gates. Realization of Boolean Functions. Synchronous and asynchronous sequential logic: counters and registers. Finite state machines, state transitions and state equivalence. Logic circuit simulation. Discrete gates and array logic laboratory experiments.

Prerequisite: take CEE-205 (or concurrent registration)

CEE-235 Signals and Systems

CEE-235 Signals and Systems

(3 cr.)

Repeatable for Credit: No

Continuous-time and discrete-time signals and systems; representation and analysis of linear, time-invariant systems; differential and difference equations; convolution; Fourier, Laplace and Z-transforms; Fourier series; time- and frequency-domain analysis; sampling theorem; introduction to advanced signal processing topics.

Prerequisites: take CEE-205 and MATH-250

CEE-315 Power Electronics and Renewable Energy Systems

CEE-315 Power Electronics and Renewable Energy Systems

(4 cr.)

Repeatable for Credit: No

Switching functions and methods of control such as pulse-width modulation, phase control, and phase modulation. DC-DC, AC-DC, DC-AC, and AC-AC power converters. Power components, including magnetic components and power semiconductor switching devices. Design and implementation of power electronic devices for off-grid and grid-connected renewable energy systems. Power quality issues in renewable energy systems.

Prerequisites: take CEE 215 or ENGR 290

CEE-325 Digital System Design

CEE-325 Digital System Design

(3 cr.)

Repeatable for Credit: No

Analysis of combinational and sequential logic and state machine designs. Circuit realization utilizing CADD tools on field programmable gate array devices. Behavioral and structural modeling of digital system designs through implementation of computer system components, and memory using hardware description language.

Prerequisites: Take CEE-205 and CEE-225

CEE-335 Automatic Control Systems

CEE-335 Automatic Control Systems

(4 cr.)

Repeatable for Credit: No

Classical methods of analysis and design for continuous-time control systems with Laplace transform techniques for solving differential equations, modeling of dynamic systems in time and frequency domains, root-locus and stability analysis. Introduction to controller design and programming for embedded-servo control systems and PC-based data acquisition in controls.

Prerequisites: take CEE-235 and CS-244

CEE-345 Microprocessor System Design

CEE-345 Microprocessor System Design

(3 cr.)

Repeatable for Credit: No

Study of the internal organization of microprocessors, instruction sets, timers and interrupts, and serial and parallel ports programming using Assembly and C languages. The design and interfacing of peripherals for a selected microprocessor and use of debugger hardware including an in-circuit serial programmer unit.

Prerequisites: take CEE-325 and CS 244

CEE-349 Cooperative Education Experience

CEE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CEE-355 Applied Electromagnetics

CEE-355 Applied Electromagnetics

(4 cr.)

Repeatable for Credit: No

Engineering applications of electromagnetic fields applied to design of electronic systems that work properly in the presence of electronic noise and do not cause electronic noise to other systems. Concepts including crosstalk, shielding, filtering, grounding, power distribution and electrostatic discharge are addressed. Use of measurement and computer aided analysis tools.

Prerequisites: take CEE-205 and PHYS-282

CEE-361 Electric Machines and Control

CEE-361 Electric Machines and Control

(3 cr.)

Repeatable for Credit: No

Transformers and magnetic circuits. Theory of electromechanical conversion. Structures and operating principles of different types of DC and AC electric motors and generators. Control aspects of these machines with modern electric drives. Analysis and design of these systems using analytical models and simulation software.

Prerequisites: take CEE 235

CEE-405 Capstone I: Computer Engineering Design

CEE-405 Capstone I: Computer Engineering Design

(3 cr.)

Repeatable for Credit: No

First of two-semester sequence in capstone design. Creation of a conceptual design to solve a hardware and software problem that requires research, problem solving, teamwork, communication skills, project management, documentation, simulation, experimentation, and other skills acquired during computer engineering undergraduate study.

Prerequisites: take CEE-325 and CEE-345

CEE-410 Capstone II: Computer Engineering Design

CEE-410 Capstone II: Computer Engineering Design

(3 cr.)

Repeatable for Credit: No

Continuation of CEE-405. Implementation, prototyping, and testing of the conceptual design developed in CEE-405; efficient management of time and resources for the successful completion of the project. Status reports, a project report, and a final presentation are required.

Prerequisite: take CEE-405

CEE-425 Data Communications and Computer Networks

CEE-425 Data Communications and Computer Networks

(3 cr.)

Repeatable for Credit: No

Design and implementation of data communications and computer network systems. Open systems interconnect models vs. internet models. Transport control protocol/internet protocol algorithms, routing techniques, network security, network management, traffic characterization using discrete-time simulation tools by applying statistical methods, hardware development and implementation of network enabled devices.

Prerequisites: take CEE-235 and CS 441 (or concurrent registration)

CEE-435 Digital Signal Processing

CEE-435 Digital Signal Processing

(3 cr.)

Repeatable for Credit: No

Fourier analysis of continuous-time and discrete-time signals and systems; sampling theory, aliasing and signal reconstruction; analysis of sampled signals; discrete and Fast Fourier transforms; ztransform; discrete convolution; design of digital finite impulse response (FIR) and infinite impulse response (IIR) filters; practical applications with simulation programs and hardware systems.

Prerequisite: take CEE-235

CEE-445 Embedded System Design

CEE-445 Embedded System Design

(3 cr.)

Repeatable for Credit: No

Structured approach to the development and design of microprocessor, microcontroller, and mixed-signal embedded systems.

Microprocessor types, memory structures, interrupt control, external interfacing, embedded sensing, and software including assemblers and higher level language support will be emphasized. Laboratory experiments for the design and implementation of an embedded system project.

Prerequisite: take CEE-345

CEE-449 Cooperative Education Experience

CEE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CEE-455 Fundamentals of Wireless Communications

CEE-455 Fundamentals of Wireless Communications

(3 cr.)

Repeatable for Credit: No

Design and analysis of wireless communication systems, frequency allocations, network architectures. Amplitude, frequency and phase modulation. Time and frequency multiplexing. Information content, channel bandwidth, modulation schemes. Calculation of path loss, fading, scattering and shadowing. Signal encoding and error control. Broadband, spread spectrum and multiple access systems.

Prerequisites: take CEE-235 and CEE-355 (or concurrent registration)

CEE-462 Sensors and Actuators

CEE-462 Sensors and Actuators

(3 cr.)

Repeatable for Credit: No

Theory, design, and application of sensors in the industry, including velocity, acceleration, force and torque, temperature, flow, pressure, liquid level, capacitance, inductance and resistance, vision and pattern recognition. Problems in data acquisition and transmission; instrumentation circuits. Analysis and design of servo systems. Translational and rotational positioning systems.

Prerequisites: take CEE 215 and CEE 335

CEE-499 Independent Study

CEE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ENGR-463 Robotics Design and Analysis

ENGR-463 Robotics Design and Analysis

(3 cr.)

Repeatable for Credit: No

Robotic system control and design; robot manipulators and classification; dynamics; kinematics; degrees of freedom; trajectory planning; vision systems; robot operating system (ROS) and programming; intelligent systems; human-robot interactions; industrial robots selection and control; and mechatronic systems.

Prerequisites: take ENGR 292, and CEE 345 or ENGR 363

Cognitive Neuroscience

CNS-200 Introduction to Cognitive Neuroscience

CNS-200 Introduction to Cognitive Neuroscience

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science, Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Cognitive and neural processes that support higher mental functions and methods by which inferences about the brain bases of cognition are made.

CNS-201 Introduction to Cognitive Neuroscience Lab

CNS-201 Introduction to Cognitive Neuroscience Lab

(1 cr.)

Analytic Reasoning and Natural Sciences - Natural Sciences with Lab

Repeatable for Credit: No

Cognitive neuroscience experimental techniques including behavioral and electrophysiological methods of research. Measurement, analysis and presentation of laboratory data on cognitive neuroscience, such as neuronal properties, sensation, memory, perception, learning and attention.

Corequisite: CNS-200

CNS-401 Prime Time Cognitive Neuroscience

CNS-401 Prime Time Cognitive Neuroscience

(2 cr.)

Repeatable for Credit: No

Public perceptions of cognitive neuroscience, using television programs as a lens. Examination of the disconnect between public perceptions and scientific reality.

CNS-401 Special Topic: Psychology, Neuroscience, and Evolution

CNS-401 Special Topic: Psychology, Neuroscience, and Evolution

(3 cr.)

Repeatable for Credit: No

Examines the application of evolutionary theory of the study of human behavior and the brain. Focus on the evolutionary bases of important phenomena such as sensation and perception, consciousness, emotions, personality, and a variety of social behaviors.

Emphasis on thinking critically and writing about research.

Prerequisite: take PSYC-110

CNS-480 Cognitive Neuroscience Research Experience

CNS-480 Cognitive Neuroscience Research Experience

(1 cr.)

Repeatable for Credit: Yes

Design, execution, analysis, and reporting of faculty-supervised, cognitive neuroscience-related research.

Instructor's Consent Required

Prerequisites: take CNS-200, CNS-201, STAT 130, and PSYC-391

CNS-481 Computational Cognitive Neuroscience

CNS-481 Computational Cognitive Neuroscience

(4 cr.)

Repeatable for Credit: No

Basic principles of computational cognitive neuroscience. Simulating cognition using biologically based networks of neuron-like units (neural networks).

Prerequisites: MATH-120, STAT 130, CNS-200 and CNS-201

CNS-499 Independent Study

CNS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Cognitive Science

COGS-101 Cognitive Science I

COGS-101 Cognitive Science I

(4 cr.)

Repeatable for Credit: No

Multidisciplinary approaches to cognitive science from the fields of psychology, computer science philosophy, neuroscience, and anthropology. Laboratory-based research methods.

Prerequisite: Take PSYC-110

COGS-202 Cognitive Science 2

COGS-202 Cognitive Science 2

(4 cr.)

Repeatable for Credit: No

Cognitive science research methodologies and problem-based laboratory exercises related to major cognitive science concepts.

Prerequisite: Take COGS-101

COGS-390 Cognitive Science Research Studio 1

COGS-390 Cognitive Science Research Studio 1

(2 cr.)

Repeatable for Credit: No

Cognitive Science research skills related to conducting a directed research project: literature reviews, meta-analysis, empirical research design, theory development, and testing of research applications.

Prerequisites: take PSYC-290 and COGS 202

COGS-490 COGS Research Studio 2

COGS-490 COGS Research Studio 2

(2 cr.)

Repeatable for Credit: No

Advanced cognitive Science research skills related to conducting and original research project: literature reviews, meta-analysis, empirical research design, theory development, creation and testing of original applications.

Prerequisite: take COGS-390

CS-496 Human-Computer Interaction

CS-496 Human-Computer Interaction

(3 cr.)

Repeatable for Credit: No

Human-computer interaction (HCI) and interface design. Survey of HCI theories and frameworks. Creation and evaluation of a mockup interface for a specific device context (web, mobile device, desktop program, etc.).

Prerequisite: take CS 244 or CS 248

Communication Studies

COMST-100 Fundamentals of Speech

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

COMST-199 Independent Study

COMST-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

COMST-200 Persuasive Speaking

COMST-200 Persuasive Speaking

(3 cr.)

Communication Skills

Repeatable for Credit: No

Advanced techniques of speaking; develop persuasion skills in personal, professional and public contexts.

Prerequisite: take COMST-100

COMST-206 Small Group Communication

COMST-206 Small Group Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Communication skills and theories for group contexts. Dynamics of small group participation; deliberation and problem-solving; conflict management; power and leadership; and team building.

COMST-208 Applied Human Communication

COMST-208 Applied Human Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Application of communication theories to interpersonal, group, mediated, and organizational contexts. Explores the intersection of rhetoric and relationships.

Prerequisite: take COMST-100

COMST-210 Interpersonal Communication

COMST-210 Interpersonal Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical and applied approaches to communication in interpersonal relationships. Communication variables and competencies for social interaction in personal and professional contexts.

COMST-236 Listening

COMST-236 Listening

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical analysis and practical application of listening concepts in personal and professional relationships.

COMST-308 Business and Professional Speaking

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

COMST-312 Intercultural Communication

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

COMST-350 Nonverbal Communication

COMST-350 Nonverbal Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theories and research involved in understanding and applying nonverbal skills in personal, professional and technologically-enhanced environments.

COMST-370 Communicating in Health Contexts

COMST-370 Communicating in Health Contexts

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to interactions about health- and wellness-related issues. Addresses perspectives on health communication in interpersonal, clinical, small group, and organizational contexts. Explains communication issues that exist in health care encounters, and discusses the influences of culture on health communication.

COMST-399 Independent Study

COMST-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

COMST-400 Cross Cultural Communication: Study Abroad to Southern Spain

COMST-400 Cross Cultural Communication: Study Abroad to Southern Spain

(3 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Components of and barriers to effective communication when studying abroad. How language and non-verbal communication are utilized and adapted by cultures. Cultural identity's impact on personal communication patterns within cross cultural settings. Study abroad travel coordinated via the Office of International Education.

Prerequisite(s): take COMST 100, Sophomore level or higher

COMST-400 Special topics in Communication Seminar

COMST-400 Special topics in Communication Seminar

(1-3 cr.)

Repeatable for Credit: Yes

Current issues or historical topics related to communication. Specific topic will be advertised prior to semester offered. Course may be repeated three times with different topics or issues.

Prerequisite: take COMST-100. Must be Junior level or higher

COMST-414 Interviewing

COMST-414 Interviewing

(3 cr.)

Repeatable for Credit: No

Principles and techniques for interviewing in both employment and information-gathering contexts.

COMST-470 Special Topics in Health Communication

COMST-470 Special Topics in Health Communication

(3 cr.)

In-depth study of special topics in the field of health communication.

COMST-475 Applied Health Communication Capstone

COMST-475 Applied Health Communication Capstone

(3 cr.)

Repeatable for Credit: No

Completion of an original research or field experience project for business or industry. Results in either a deliverable for a client with a project report or a research paper.

COMST-499 Independent Study

COMST-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Computer, Networking & Information Technologies

CNIT-133 Networking Fundamentals I

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

CNIT-300 Cybersecurity Operations

CNIT-300 Cybersecurity Operations

(3 cr.)

Repeatable for Credit: No

Monitor, detect, analyze and respond to cybercrime. Understand and use regulatory compliance frameworks. Prepares you for the Cisco CCNA CyberOps certification.

CNIT-300 Emerging Information Technology Workshop

CNIT-300 Emerging Information Technology Workshop

(3 cr.)

Repeatable for Credit: Yes

Examination of information technologies and computer networking emerging trends, alongside complimentary and disruptive developments. Strategies impacting or impeding adoption. Activities to test these strategies. Identification of trend strengths and vulnerabilities. Presentation of findings.

Prerequisite: take CNIT 134

CNIT-300 Special Topics: VMware vSphere Install, Configure, Manage Version 6.0

CNIT-300 Special Topics: VMware vSphere Install, Configure, Manage Version 6.0

(3 cr.)

Repeatable for Credit: No

Install, configure, and manage VMware vSphere 6.0; includes VMware ESXi 6.0 and VMware vCenter Server 6.0. Prepares you to administer a vSphere infrastructure for an organization of any size and forms the foundation for most other VMware technologies in the software-defined data center.

Prerequisite: take CNIT 133

CNIT-301 Linux Systems & Network Administration

CNIT-301 Linux Systems & Network Administration

(3 cr.)

Repeatable for Credit: No

A technical overview of the Linux operating system, including: hands-on experience with commands, files, services and tools. Topics include basic Linux commands, files and directories, text editing and scripting; installation and maintenance of Linux servers in the corporate world; installation and configuration of services and applications of Linux servers.

Prerequisite: take either ITM/CNIT-133 OR CS-144

CNIT-330 IP Telephony Design & Implementation

CNIT-330 IP Telephony Design & Implementation

(3 cr.)

Repeatable for Credit: No

Internet protocol (IP) telephony components and protocols examination; converged network interpretation; analog and digital voice interface configuration; quality of service configuration; single and multisite IP telephony deployment; IP telephony features implementation.

Prerequisites: take CNIT-441

CNIT-361 Workstation And Server

CNIT-361 Workstation And Server

(3 cr.)

Repeatable for Credit: No

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisite: take CNIT 133

CNIT-371 Cloud Computing Design, Implementation, & Security

CNIT-371 Cloud Computing Design, Implementation, & Security

(3 cr.)

Repeatable for Credit: No

Technical overview of cloud computing, including: hands-on experience with designing and implementing public and private cloud. Public and private cloud architecture principles and its components, deploying and implementing highly available and fault tolerant enterprise public and private cloud-based solutions.

Prerequisite(s): take CNIT 133 and CNIT 301

CNIT-381 Network Programmability and Automation

CNIT-381 Network Programmability and Automation

(3 cr.)

Repeatable for Credit: No

Concepts and foundations of network automation and programmability tools and techniques used to implement, manage, secure, and maintain networks. Designing, implementing and managing networks with open source standards and industry-standard languages and platforms including; Python, JSON, Linux, Cisco ACI, and APIC-EM.

Prerequisite(s): take CS 144, CNIT 134 and CNIT 301

CNIT-382 Network Systems Design

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-383 Introduction to Network Security

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

CNIT-391 Wireless Systems

CNIT-391 Wireless Systems

(3 cr.)

Repeatable for Credit: No

Wireless networking combining Radio Frequency (RF) and Local Area Networking (LAN) technology fundamentals. Basic concepts and building blocks or the convergence between RF and networking technologies. Technologies and tasks vital to installing, managing, and supporting wireless networks.

Prerequisite: take CNIT-134

CNIT-441 Scalable Internetworks

CNIT-441 Scalable Internetworks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT-134

CNIT-443 Multi-Layer Switched Networks

CNIT-443 Multi-Layer Switched Networks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Build multi-layer switched networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT 134

CNIT-444 Internetwork Troubleshooting

CNIT-444 Internetwork Troubleshooting

(3 cr.)

Repeatable for Credit: No

Specialization course for the Cisco CCNP professional certification. Students will learn to troubleshoot internetworks. Students are required to pass the associated Cisco certification examination.

Prerequisites: Take CNIT-441 and CNIT-443

CNIT-449 Cooperative Education Experience

CNIT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

CNIT-450 Enterprise Solutions and Unified Communications

CNIT-450 Enterprise Solutions and Unified Communications

(3 cr.)

Repeatable for Credit: No

Enterprise-level network utilizing the technologies and methods that are current industry best practices. Provide enterprise network solutions and unified communications to an organization while maintaining quality of service. New and emerging network technologies for an enterprise network.

Prerequisites: take CNIT-330, CNIT-363, and CNIT-444

CNIT-484 Advanced Network Security and Auditing

CNIT-484 Advanced Network Security and Auditing

(3 cr.)

Repeatable for Credit: No

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: take CNIT 301 , CNIT-383, and either CNIT 361 or CS 480

CNIT-490 Information Technology Management Capstone

CNIT-490 Information Technology Management Capstone

(3 cr.)

Repeatable for Credit: No

Work with an outside organization in a team environment utilizing concepts of design, brainstorming, problem solving, team work, creativity, evaluation, and present findings in oral and written formats.

Prerequisite: take CNIT 444 and CNIT 484

Computer Science

CS-125 Python Scripting

CS-125 Python Scripting

(2 cr.)

Repeatable for Credit: No

Introductory overview of the Python programming language with an emphasis on functions, files and data processing.

CS-141 Introduction to Programming

CS-141 Introduction to Programming

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Solving problems using computer programming. Input/output, user interface, objects, events, flow of control, functions, arrays.

CS-144 Computer Science I

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-199 Independent Study

CS-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CS-244 Data Structures

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

CS-245 Introduction to Computer Organization

CS-245 Introduction to Computer Organization

(3 cr.)

Repeatable for Credit: No

Basic concepts in computer systems including computer structure, machine language, assembly languages, addressing techniques, macros, file I/O, program segmentation and linkage.

Prerequisite: take CS-145

CS-248 Web and Internet Programming

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

CS-254 Algorithm Design and Analysis

CS-254 Algorithm Design and Analysis

(3 cr.)

Repeatable for Credit: No

Introduction to the design and analysis of algorithms. Asymptotic analysis of time complexity. Proofs of correctness. Dynamic programming, greedy algorithms, amortized analysis, and string operations. Concept of NP-completeness.

Prerequisite: take CS-244 & either MATH 154 or MATH 157

CS-290 Professional Seminar

CS-290 Professional Seminar

(1 cr.)

Repeatable for Credit: No

Preparation for the computer science profession. Assess knowledge base, identify areas of strengths and weaknesses, define plan for further development. Build a professional portfolio and resume, and review interviewing skills. Explore career paths, company research, negotiations and weighing job offers. Opportunities for attendance at industry presentations and company visits.

Prerequisite: take CS-244 or CS-248

CS-299 Independent Study

CS-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CS-324 Database Systems Manipulation and Design

CS-324 Database Systems Manipulation and Design

(3 cr.)

Repeatable for Credit: No

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases.

Prerequisite: take CS-244

CS-326 Programming in Game Engines

CS-326 Programming in Game Engines

(3 cr.)

Repeatable for Credit: No

Introduction to programming in game engines with focus on programming game objects, physics, programmable effect systems and user interface components to create interactive programs.

Prerequisite: take CS-244

CS-326 Programming Interaction in 3D Game Environments

CS-326 Programming Interaction in 3D Game Environments

(3 cr.)

Repeatable for Credit: No

Introduction to a 3D game programming environment with focus on programming interaction of game objects, physics, programmable

effect systems and Heads-Up-Display (HUD).
Prerequisite: take CS-244

CS-342 Survey of Programming Languages

CS-342 Survey of Programming Languages

(3 cr.)

Repeatable for Credit: No

Programming languages and language design. Comparative study of three modern high level languages and their application strengths for systems programming, embedded computer systems and artificial intelligence.

Prerequisites: take CS-244 and CS-245

CS-343 Mathematical Foundations of Computer Graphics

CS-343 Mathematical Foundations of Computer Graphics

(3 cr.)

Repeatable for Credit: No

Fundamental hardware, software, mathematics, data structures and algorithms for computer graphics.

Prerequisites: take CS-244 and MATH 275, and take either MATH-158 or MATH-154 or PHYS-281

CS-345 Image Processing

CS-345 Image Processing

(3 cr.)

Repeatable for Credit: No

Theory and applications of digital image processing. Mathematical foundations and algorithms for enhancement, restoration, compression, segmentation and reconstruction from projections.

Prerequisites: take MATH 158, MATH-275, and CS-244

CS-346 Simulation Modeling and Analysis

CS-346 Simulation Modeling and Analysis

(3 cr.)

Repeatable for Credit: No

Simulation as a problem-solving technique; models, analysis and languages for simulation; data collection; random variate generation; verification and validation; output analysis; optimization of systems.

Prerequisites: take CS-244 and STAT-332

CS-349 Cooperative Education Experience

CS-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CS-358 Software Engineering Principles

CS-358 Software Engineering Principles

(3 cr.)

Repeatable for Credit: No

Study of the software development life cycle, software engineering practices including waterfall and agile, requirements engineering, user-centric design practices, program testing, documentation, and team management and organization. Students will work on a software project to develop requirements and design a prototype.

Prerequisite: take CS-244 & either CS 248 or CS 324

CS-364 Mobile Development in Android

CS-364 Mobile Development in Android

(3 cr.)

Repeatable for Credit: No

Design and implementation of software applications for mobile devices running the Android platform. Fundamental programming principles, software architecture and user experience considerations underlying handheld software applications and their development environments.

Prerequisite: take CS 324

CS-396 iOS Mobile App Development

CS-396 iOS Mobile App Development

(3 cr.)

Repeatable for Credit: No

Fundamentals of Swift and XCode for programming and design of iOS applications. Development of iOS applications using the Swift programming language and the Apple toolset. Study of the basic concepts of designing intuitive and usable interfaces, augmented reality, and user experience.

Prerequisite: take CS 244

CS-399 Independent Study

CS-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

CS-404 Advanced Web and Internet Programming

CS-404 Advanced Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Modern and emerging web programming standards, server configurations, and libraries. Web app creation and persistent data storage. Survey of modern tools and technologies to support web development.

Prerequisites: take CS 248 and take or be concurrently enrolled in CS 324

CS-441 Computer Architecture

CS-441 Computer Architecture

(4 cr.)

Repeatable for Credit: No

Fundamentals in modern computer technology, focusing on hardware. Design, operation, and interconnections of the major computer system components consisting of the CPU, memory, and I/O modules.

Prerequisite: take CS-244

CS-442 Systems Programming

CS-442 Systems Programming

(3 cr.)

Repeatable for Credit: No

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software.

Prerequisite: take CS 441

CS-449 Cooperative Education Experience

CS-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CS-458 Software Engineering Practicum

CS-458 Software Engineering Practicum

(4 cr.)

Repeatable for Credit: Yes

Ongoing, repeatable course with hands-on experience in software engineering. Teams will work on projects with customers to specify, design, implement, and test a significant software system using modern software engineering approaches to team management, communication, and coordination. Modern tools for communication, feature and requirement management, and version control will be used. Modern agile and incremental techniques will be employed.

Prerequisite: take CS-358 and Junior Standing

CS-480 Introduction to Computer Security

CS-480 Introduction to Computer Security

(3 cr.)

Repeatable for Credit: No

Computer security problems and challenges, relationship between policy and security, cryptography, implementation of requirements imposed by policies, use of standards to ensure that the system will meet its goals, system vulnerabilities analysis and detection, intrusion detection, application of desired policy and procedures to support the policy.

Prerequisite: take CS 244

CS-496 Artificial Intelligence

CS-496 Artificial Intelligence

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts of artificial intelligence. Principles and programming techniques of artificial intelligence: heuristic search, symbol manipulation, knowledge representation, logical and probabilistic reasoning, machine learning, language understanding, expert systems, and social issues.

Prerequisite: take CS 254

CS-496 Python Scripting

CS-496 Python Scripting

(2 cr.)

Repeatable for Credit: No

Introductory overview of the Python Programming language with an emphasis on functions, files and data processing.

CS-499 Independent Study

CS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Counseling

COUN-149 Cooperative Education Experience

COUN-149 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

COUN-249 Cooperative Education Experience

COUN-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

COUN-349 Cooperative Education Experience

COUN-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

COUN-399 Independent Study

COUN-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

COUN-400 Workshop in Counseling

COUN-400 Workshop in Counseling

(1-3 cr.)

Repeatable for Credit: Yes

Current specialized topics studied through experiential activities.

COUN-405 Helping Skills for the Professional

COUN-405 Helping Skills for the Professional

(3 cr.)

Repeatable for Credit: No

Develop basic helping skills including active listening; problem solving, goal setting, and decision-making; conflict resolution; information giving; assertion skills; and making referrals. Applicable when basic counseling is an appropriate helping response and also in any interpersonal relationship, including people with disability and ethnic diversity issues.

COUN-406 Peer Supervisory Experience

COUN-406 Peer Supervisory Experience

(1 cr.)

Repeatable for Credit: Yes

Experience in observation and feedback to peers undergoing counseling skill training.

Instructor's Consent Required

COUN-447 Assessment and Treatment of Eating Disorders

COUN-447 Assessment and Treatment of Eating Disorders

(2 cr.)

Repeatable for Credit: No

Description and diagnostic criteria for anorexia nervosa, bulimia nervosa, obesity, and compulsive overeating. Psychological, sociological, and familial influences on the development of the disorders. Assessment instruments, approaches, and treatment considerations.

COUN-449 Cooperative Education Experience

COUN-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

COUN-494 Counseling Older Persons

COUN-494 Counseling Older Persons

(2-3 cr.)

Repeatable for Credit: No

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

COUN-499 Independent Study

COUN-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

COUN-747 Counseling Across the Life Span

COUN-747 Counseling Across the Life Span

(3 cr.)

Repeatable for Credit: No

Learning and application of mental health counseling across the life stages of human behavior and development.

College of Science, Technology, Engineering, Mathematics and Management

CSTEM-125 Gender and Science, Technology, Engineering and Mathematics

CSTEM-125 Gender and Science, Technology, Engineering and Mathematics

(3 cr.)

Global Perspective

Repeatable for Credit: No

Issues surrounding women and men in STEM fields; representation of women in these fields, reasons for under-representation; global ethnic and historical perspectives.

CSTEM-149 Cooperative Education Experience

CSTEM-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CSTEM-249 Cooperative Education Experience

CSTEM-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring supervised work periods, each one building and expanding on the previous.

Department Consent

CSTEM-349 Cooperative Education Experience

CSTEM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring supervised work periods, each one building and expanding on the previous.

Department Consent

CSTEM-390 Technical Service Schools

CSTEM-390 Technical Service Schools

(0.5-6 cr.)

Repeatable for Credit: Yes

Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: (1) Student makes all arrangements with manufacturer offering courses; (2) One credit is awarded for each full week (40 hours) of attendance; (3) Student enrolls and pays fees prior to taking course; (4) Approval of dean of school of industry and technology needed before enrolling for credit; (5) Graduate college approval required for students taking course for graduate credit.

Department Consent

CSTEM-449 Cooperative Education Experience

CSTEM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring supervised work periods, each one building and expanding on the previous.

Department Consent

Design

DES-114 Interior Design Communication Tools

DES-114 Interior Design Communication Tools

(3 cr.)

Repeatable for Credit: No

Introductory study of the design process, software and communication tools used within the interior design industry.

DES-149 Cooperative Education Experience

DES-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

DES-150 Introduction to Sustainable Design and Development

DES-150 Introduction to Sustainable Design and Development

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination of theory and practice of sustainable development and the influential role of design.

DES-176 Introduction to Digital Narrative

DES-176 Introduction to Digital Narrative

(3 cr.)

Repeatable for Credit: No

Visual storytelling and time-based foundations (4D) for animation, digital cinema, comics, game design, transmedia design and other time-based forms. Emphasis on ideation through writing, storyboarding and concept illustration. Introduction to the field of entertainment design.

DES-200 Design Concepts and Problems

DES-200 Design Concepts and Problems

(3 cr.)

Repeatable for Credit: No

Comprehensive understanding of the processes, techniques, and concepts used by designers to arrive at innovative and successful design solutions.

Prerequisites: take ART-101 and ART 103, each with a grade of C or better

DES-205 Design Drawing and Concept Visualization

DES-205 Design Drawing and Concept Visualization

(3 cr.)

Repeatable for Credit: No

Comprehensive education and training in developing, visualizing, and communicating design ideas through drawing.

Prerequisites: take ART-200 with a grade of C or better

DES-210 Typography I: Letterform

DES-210 Typography I: Letterform

(3 cr.)

Repeatable for Credit: No

Design of letterforms, figures, and visual symbols; history and development of type.

Prerequisites: take ART-100 with a grade of C or better

DES-214 Interior Design Practice, Materials and Finishes

DES-214 Interior Design Practice, Materials and Finishes

(3 cr.)

Repeatable for Credit: No

Introductory study of interior design professional practice, contemporary interior design issues, materials and finishes used within the built environment.

DES-220 Introduction To 2D Digital Imaging

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

DES-222 Board Game Production & Processes

DES-222 Board Game Production & Processes

(3 cr.)

Repeatable for Credit: No

Learn in a real-world design studio environment in the board game industry. Practice procedural design by managing projects, resources, timelines, and budgets. Gain hands-on experience with the production process by following the life cycle of board games developed in class. Speak directly with industry experts and discuss trending topics.

Prerequisite: take GDD 100 and DES 220 or Instructor Approval

DES-225 Pixel and Vector Art

DES-225 Pixel and Vector Art

(3 cr.)

Repeatable for Credit: No

Investigation into ways digital 2D art, through using both pixel and vector applications, can be incorporated into the game medium through concept art and in-game art assets.

Prerequisites: take DES 220 with a grade of C or better

DES-231 Industrial Design 1: Product Form and Visualization

DES-231 Industrial Design 1: Product Form and Visualization

(3 cr.)

Repeatable for Credit: No

Introduction to Industrial Design, with an emphasis on aesthetics, visualization, and the process of designing new products.

Prerequisite: take ART 103 and ART 200 each with a C or better

Corequisite: take DES 205 with a C or better

DES-232 Industrial Design 2: Ergonomics

DES-232 Industrial Design 2: Ergonomics

(3 cr.)

Repeatable for Credit: No

Study and application of human factors to the design of products. Understand the human body and its limitations to create a product that is comfortable, safe, and easy to use.

Prerequisite: take DES 205 and DES 231 each with a C or better

DES-249 Cooperative Education Experience

DES-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

DES-256 Art Workshop

DES-256 Art Workshop

(1-3 cr.)

Repeatable for Credit: Yes

Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract.

DES-260 Typography II:

DES-260 Typography II:

(3 cr.)

Introduction to complex typographic systems with a focus on functional aspects of hierarchy, navigation, and user-centered information design. Practical application of compositional grids to print and online media.

No

Prerequisite: take DES 210 with a grade of C or better

DES-296 Fundamentals of Animation

DES-296 Fundamentals of Animation

(3 cr.)

Repeatable for Credit: No

Introduction to animation, through the study of the twelve principles of animation using observation, application, and research. Critical examination of each principle and their direct application to animated projects, using a variety of techniques and materials, both digital and traditional.

Prerequisites: take ART-100; BFA-ENT students and BFA-GDD students

DES-297 Design Field Experience/Experiential Learning

DES-297 Design Field Experience/Experiential Learning

(1-3 cr.)

Repeatable for Credit: No

Work in an approved design position or conduct advanced research on an approved design ic.

Department Consent

DES-299 Independent Study

DES-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

DES-303 Interior Design Studio I

DES-303 Interior Design Studio I

(3 cr.)

Repeatable for Credit: No

Experiential study of the fundamental principles and elements of interior design and their application to a range of residential design projects. Projects emphasize residential space planning based on functional requirements, application of various elements of design, and design communication methods.

No

Prerequisite: take DES 114

DES-304 Interior Design Studio II

DES-304 Interior Design Studio II

(3 cr.)

Repeatable for Credit: No

Experiential study of the principles and elements of interior design as applied to a range of projects and end-user populations. Studio

design projects emphasize project development, end-user needs, codes, varied building typologies, and design communication methods.

Prerequisites: take ETECH-205 or DES-303 with a grade of C or better

DES-308 Lighting Design in the Built Environment

DES-308 Lighting Design in the Built Environment

(3 cr.)

Repeatable for Credit: No

Exploration and application of professional lighting design practice within the built environment including psychological and physiological aspects of artificial and natural light, effects of color, directional effects, materials, design process, aesthetics, codes, energy conservation, and sustainability.

Prerequisite: take DES-303 with a grade of C or better

DES-310 Graphic Design I

DES-310 Graphic Design I

(3 cr.)

Repeatable for Credit: No

Exploration of the formal qualities of creating effective and informative design. Foundational design elements including line, shape, form and texture; compositional principle concepts of balance, contrast, grid structures and hierarchy.

Prerequisites: take ART-101 or DES-210, each with a grade of C or better

DES-314 Interior Design Contracts and Codes

DES-314 Interior Design Contracts and Codes

(3 cr.)

Repeatable for Credit: No

Study of interior design professional practice, industry regulations and product specifications.

DES-320 Furniture Design

DES-320 Furniture Design

(3 cr.)

Repeatable for Credit: No

Design and construction of contemporary furniture.

Prerequisites: take DES 231 or DES 232 or DES-303 with a grade of C or better

DES-321 Digital Imagery Studio

DES-321 Digital Imagery Studio

(3 cr.)

Repeatable for Credit: Yes

A studio workshop experience in digital painting, photo illustration and image compositing using digital tools. Advanced topics and projects rotate.

Prerequisites: take ART-200, DES-205 & DES-220, each with a grade of C or better

DES-325 Introduction to Web Design

DES-325 Introduction to Web Design

(3 cr.)

Repeatable for Credit: No

Processes and concepts involved in the design and development of Web sites.

Prerequisites: take DES 310 with a grade of C or better

DES-331 Industrial Design 3: Product Interface Design

DES-331 Industrial Design 3: Product Interface Design

(3 cr.)

Repeatable for Credit: No

Designing products and their interfaces to make them understandable, easy to use, safe, and appealing.

Prerequisites: take DES 232 with a grade of C or better, and ETECH-110

DES-332 Industrial Design 4: Design for Manufacture

DES-332 Industrial Design 4: Design for Manufacture

(3 cr.)

Repeatable for Credit: No

Overview of common materials and manufacturing techniques and application to the design of mass-produced products.

Prerequisites: take DES 331 with a C or better and take ETECH 110

DES-333 Professional Practice In Industrial Design

DES-333 Professional Practice In Industrial Design

(1 cr.)

Repeatable for Credit: Yes

Overview of the role of the professional industrial designer.

Prerequisites: take DES 231 and DES 232, each with a grade of C or better

DES-345 Product Form Design

DES-345 Product Form Design

(3 cr.)

Repeatable for Credit: No

Exploration of product forms through drawing and model-building techniques.

DES-349 Cooperative Education Experience

DES-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

DES-350 3D Game Art and Engines

DES-350 3D Game Art and Engines

(3 cr.)

Repeatable for Credit: No

Investigation into ways 3D modeling, animation and texturing can be incorporated into interactive experiences using industry standard 3D game engines and emergent technology for user interaction.

Prerequisite: take DES 372 with a grade of C or better or instructor consent

DES-360 Graphic Design II

DES-360 Graphic Design II

(3 cr.)

Repeatable for Credit: No

Social responsibility, business and ethical factors affecting visual communication are investigated while deepening sensitivity and experience in graphic design. Deeper, broader understanding of how to create meaning and utilize problem-solving methodologies to develop work that is compelling, informative, and meaningful.

Prerequisites: take DES-310 and DES-220, each with a grade of C or better

DES-361 Transmedia Studio

DES-361 Transmedia Studio

(3 cr.)

Repeatable for Credit: Yes

Application of advanced physical and digital ideation and production tools in support of interdisciplinary project development and realization. Emphasis on conceptual development, aesthetics and opportunities for industry partnership and/or public dissemination. Students work individually and in teams; topics and projects rotate each semester.

Prerequisites: take ART 307 or DES 232 or DES 304 or DES 360 or DES 370 or DES 372 or DES 375 or DES 378 or DES 379 or instructor consent.

DES-370 User Experience Design

DES-370 User Experience Design

(3 cr.)

Repeatable for Credit: No

Application of principles and methods involved in user experience design and human-computer interaction.

Prerequisites: take DES 325 and DES 360, each with a grade of C or better

DES-371 Interactive Media Design

DES-371 Interactive Media Design

(3 cr.)

Repeatable for Credit: Yes

Design and development of interactive media compositions.

Prerequisites: *DES 325 w/ a grade of C or better and DES 360 w/ a grade of C or better and CS 141, OR take DES 360 w/ a grade of C or better and DES 325 w/ a grade of A, OR take DES 325 w/ a grade of C or better and DES 225 w/ a grade of C or better and CS 141*

DES-372 3D Modeling and Animation I

DES-372 3D Modeling and Animation I

(3 cr.)

Repeatable for Credit: No

Introduction to 3D digital modeling, animation, texturing, lighting, and rendering techniques. Using digital design elements and visual aesthetics, students create 3D digital imagery and animations.

Prerequisites: *take ART-103 & DES-220, each with a grade of C or better*

DES-373 3D Modeling - Hard Surface

DES-373 3D Modeling - Hard Surface

(3 cr.)

Repeatable for Credit: Yes

Intermediate design studio course focused on developing 3D hard surface models, textures and environment lighting. Creation of robust digital imagery and animations using rendering and visual aesthetics.

Prerequisite: *take DES 372 with a grade of C or better*

DES-374 3D Modeling - Organics

DES-374 3D Modeling - Organics

(3 cr.)

Repeatable for Credit: No

Intermediate design studio course focused on developing 3D organic models and textures. Creation of robust digital imagery and animations using rendering and visual aesthetics.

Prerequisites: *take DES-372 with a grade of C or better*

DES-375 Digital Cinema Studio

DES-375 Digital Cinema Studio

(3 cr.)

Repeatable for Credit: Yes

Techniques, topics and projects for digital cinema. Emphasis on creative direction, aesthetics, content and narrative development. Advanced students work individually and in teams to produce and critically examine self-directed projects. Advanced topics and projects rotate each semester.

Prerequisites: take DES-176, DES-220 and ART-100, each with a grade of C or better

DES-378 Animation Studio

DES-378 Animation Studio

(3 cr.)

Repeatable for Credit: Yes

Animation techniques, topics and projects. Course provides an introduction to 2D and s-motion animation techniques. Advanced students work individually and in teams to produce and critically examine self-directed projects. Specific topics and projects rotate each semester.

Prerequisites: take DES-176 and DES-220, each with a grade of C or better

DES-379 Comics & Sequential Art Studio

DES-379 Comics & Sequential Art Studio

(3 cr.)

Repeatable for Credit: Yes

Techniques, topics and projects. Introduction to the art and craft of combining words and illustrated pictures to create narrative works. Advanced students work individually and in teams to produce and critically examine self-directed projects. Advanced topics and projects rotate each semester.

Prerequisites: take DES-176, DES-220 and ART-100, each with a grade of C or better

DES-380 Signage and Exhibition Design

DES-380 Signage and Exhibition Design

(3 cr.)

Repeatable for Credit: Yes

Organization and design of environmental graphics through the production of signage, display, and exhibition support systems. A special course fee applies.

Prerequisites: take DES-205 and DES-360, each with a grade of C or better

DES-382 Information Design

DES-382 Information Design

(3 cr.)

Repeatable for Credit: No

Envisioning information through the design and production of charts, diagrams, maps, and other hierarchical graphics. A special

course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-384 Advertising Design

DES-384 Advertising Design

(3 cr.)

Repeatable for Credit: No

Graphic design principles and creative concepts as applied to advertising art. A special course fee applies.

Prerequisites: take DES-205 and DES-360, each with a grade of C or better

DES-385 Advanced Interactive Design

DES-385 Advanced Interactive Design

(3 cr.)

Repeatable for Credit: Yes

Advanced design and development of interactive projects. Project focus will rotate across contemporary topics. (Repeatable)

Prerequisite: take DES-371 with a grade of C or better

DES-386 Publication Design

DES-386 Publication Design

(3 cr.)

Repeatable for Credit: No

Graphic design principles as applied to the combination and coordination of art and typography with text. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-388 Typographic Design

DES-388 Typographic Design

(3 cr.)

Repeatable for Credit: No

Design of grid-based, hierarchical and expressive typographic structures; analysis of historical and theoretical precedents. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-389 Typography in Motion

DES-389 Typography in Motion

(3 cr.)

Repeatable for Credit: No

Introduction into dynamic, time-based typography covering technology and skills involved in creating kinetic and emotive typography

with various media.

Prerequisites: take DES-325 and DES-360, each with a grade of C or better

DES-390 Professional Practices in Design

DES-390 Professional Practices in Design

(2 cr.)

Repeatable for Credit: No

Professional Practices in Design. Practices and portfolio seminar for all Design students. Students develop promotional materials, discuss related business strategies and legal issues, and establish short and long term career goals.

Prerequisites: Successful completion of mid program review (instructor approval for graduate students).

DES-396 Animation Production

DES-396 Animation Production

(3 cr.)

Repeatable for Credit: No

Students work in industry-inspired roles to produce collaborative animation projects. Project management, problem solving, and animation pipeline.

Prerequisite(s): take DES 176 and DES 372

DES-397 Design Field Experience/Experiential Learning

DES-397 Design Field Experience/Experiential Learning

(1-3 cr.)

Repeatable for Credit: No

Work in an approved design position or conduct advanced research on an approved design ic.

Department Consent

DES-399 Independent Study

DES-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

DES-405 Advanced Design Drawing

DES-405 Advanced Design Drawing

(3 cr.)

Repeatable for Credit: No

In-depth study of illustration and presentation styles within various design contexts. Development of drawing skills in traditional and

digital media, emphasizing perspective, form, and texture. Emphasis on rapid freehand, conceptual drawing as a means to imagine and develop design concepts.

Prerequisites: take DES 205 ; MFAiD students need Program Director approval

DES-410 Product and Packaging Graphics

DES-410 Product and Packaging Graphics

(3 cr.)

Repeatable for Credit: No

Design and application of graphics to products, packages, and related display systems.

Prerequisite: take DES-360 with a grade of C or better

DES-414 Interior Design Construction Documentation

DES-414 Interior Design Construction Documentation

(3 cr.)

Repeatable for Credit: No

Advanced interior design specification and construction documentation, incorporating elements of current professional practice.

Prerequisite: take DES 114 with a grade of C or better

DES-415 Interior Design Studio 3

DES-415 Interior Design Studio 3

(3 cr.)

Repeatable for Credit: No

Advanced experiential study of the principles and elements of interior design and their application to a range of commercial design projects. Studio design projects emphasize conceptual development, space planning, building code and accessibility compliance.

Prerequisite: take DES 304 with a grade of C or better

DES-416 Interior Design Senior Studio

DES-416 Interior Design Senior Studio

(4 cr.)

Repeatable for Credit: No

Exploration of advanced interior design ics, including sustainability, through an extensive project(s) to include all phases of current interior design professional practice and incorporation into students portfolio.

Prerequisites: take DES-308 and DES-414, each with a grade of C or better

DES-431 ID5: Industrial Design Senior Studio I

DES-431 ID5: Industrial Design Senior Studio I

(3 cr.)

Repeatable for Credit: Yes

Exploration of advanced industrial design topics through extensive projects with consideration given to contextual and environmental issues. topics and projects rotate each semester. Department consent

Prerequisite: take DES-331 and DES-332 with a grade of C or better

DES-432 ID6: Industrial Design Senior Studio II

DES-432 ID6: Industrial Design Senior Studio II

(3 cr.)

Repeatable for Credit: No

Execution of advanced industrial design projects through all phases of current industrial design process.

Prerequisites: take DES 431 with a grade of C or better

DES-449 Cooperative Education Experience

DES-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

DES-451 Interior Design Practicum

DES-451 Interior Design Practicum

(3 cr.)

Repeatable for Credit: No

Work experience with an interior designer or in design-related field arranged with interior design work experience coordinator.

Department Consent

Prerequisite: take DES-303 with a grade of C or better

DES-456 Advanced Art Workshop

DES-456 Advanced Art Workshop

1-(3 cr.)

Repeatable for Credit: Yes

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract.

DES-456 Advanced User Experience Design

DES-456 Advanced User Experience Design

(3 cr.)

Repeatable for Credit: No

Advanced application of user-centered methodologies for print and digital communication.

Prerequisites: take DES 360 , DES 370 , both with a C or better

DES-480 Senior Project - Graphic Design

DES-480 Senior Project - Graphic Design

(4 cr.)

Repeatable for Credit: No

Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system.

Instructor's Consent Required

Prerequisites: take DES-360, and take either DES 380 or DES-410, all with a grade of C or better

DES-490 Senior Project: Entertainment Design

DES-490 Senior Project: Entertainment Design

(3-4 cr.)

Repeatable for Credit: Yes

Advanced entertainment design topic explored through the completion of professional level projects from concept to published media. Capstone project for the BFA in Entertainment Design. Repeatable. Specific topics and projects rotate each semester. Students are required to take a minimum of two consecutive semesters.

Instructor's Consent Required

DES-496 Visual Language Design

DES-496 Visual Language Design

(3 cr.)

Repeatable for Credit: No

Theory and practice in the design of visual language systems.

Prerequisite: take DES 360 with a grade of C or better

DES-497 Design Field Experience/Experiential Learning

DES-497 Design Field Experience/Experiential Learning

(1-3 cr.)

Repeatable for Credit: No

Work in an approved design position or conduct advanced research on an approved design ic.

Department Consent

DES-499 Independent Study

DES-499 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

Digital Marketing Technology

DMT-100 Introduction to Digital Marketing Technology

DMT-100 Introduction to Digital Marketing Technology

(1 cr.)
Repeatable for Credit: No
Survey of changes, challenges, opportunities in business and industry for the digital marketing technologies professional. Program advisement, course sequence, career pathways and job opportunities.
B.S. in Digital Marketing Technology majors only

DMT-101 Introduction to Digital Marketing Technology

DMT-101 Introduction to Digital Marketing Technology

(1 cr.)
Repeatable for Credit: No
Survey of changes, challenges, opportunities in business and industry for the digital marketing technologies professional. Program advisement, course sequence, career pathways and job opportunities.
Digital Marketing Technology Majors Only

DMT-275 Web Production and Distribution

DMT-275 Web Production and Distribution

(3 cr.)
Repeatable for Credit: No
Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.
Prerequisite: take either ICT-103 or GCOM-151

DMT-311 Information and Communication Technologies Analytics

DMT-311 Information and Communication Technologies Analytics

(3 cr.)
Repeatable for Credit: No
Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.
Prerequisite: take ICT-103

DMT-475 Dynamic Web Technologies

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

DMT-485 Search Engine Optimization

DMT-485 Search Engine Optimization

(3 cr.)

Repeatable for Credit: No

Contemporary application of strategies and technology related to the improvement of placement in search engine and other relevant search results.

Early Childhood Education

ECE-100 Introduction to Early Childhood Programs

ECE-100 Introduction to Early Childhood Programs

(2 cr.)

Repeatable for Credit: No

Introduce early childhood profession. Early childhood programs for children birth through age eight; developmentally appropriate practice; current issues in early childhood; professionalism; employability skills and attitudes; and career exploration. Decision making and appropriate planning of students' early childhood program plan.

Prerequisite: Early Childhood Education majors only

ECE-105 Infant/Toddler Education

ECE-105 Infant/Toddler Education

(3 cr.)

Repeatable for Credit: No

Examine developmentally appropriate practice for educating infants and toddlers. Environment; instructional practices for individual and small group; lesson plans including assessment strategies, instructional technology techniques, and materials.

Take concurrently with HDFS-124

ECE-149 Cooperative Education Experience

ECE-149 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved business/industry position related to the student's major. Selection by application and interview.

Department Consent

ECE-200 Expressive Curriculum for the Young Child

ECE-200 Expressive Curriculum for the Young Child

(3 cr.)

Repeatable for Credit: No

Curriculum, methods and materials related to music, art and creative movement activities for the young child.

ECE-205 Preschool/Kindergarten Education

ECE-205 Preschool/Kindergarten Education

(3 cr.)

Repeatable for Credit: No

Developmentally appropriate practice in preschool/kindergarten curriculum. Environment; instructional practices for individual, small and large group instruction; lesson plans including assessment strategies, instruction technology techniques, and materials.

ECE-249 Cooperative Education Experience

ECE-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved business/industry position related to the student's major. Selection by application and interview.

Instructor's Consent Required

ECE-264 Child Guidance in PreSchool - Kindergarten

ECE-264 Child Guidance in PreSchool - Kindergarten

(2 cr.)

Repeatable for Credit: No

Essential elements in guiding children in early childhood classrooms. Positive guidance strategies, introduction to early childhood classroom management, effects of guidance on children's social and emotional development; methods in documenting children's behavior, progress, development.

Completion of Tier 1: HDFS-124 and ECE-105

ECE-305 Primary Education

ECE-305 Primary Education

(3 cr.)

Repeatable for Credit: No

Focus on developmentally appropriate teaching practices in primary classrooms (grades 1-3). Program models; learning environments; local, state, and national standards; assessment techniques; instructional approaches and lesson planning for primary students.

Prerequisite: Completion of Tier 2 and Benchmark 1, and concurrent enrollment in ECE-313

ECE-308 Methods, Materials, and Management for Middle Childhood Education

ECE-308 Methods, Materials, and Management for Middle Childhood Education

(3 cr.)

Repeatable for Credit: No

Focus on developmentally appropriate teaching practices in elementary classrooms (grades 4-6). Program models; learning environments; local, state, and national standards; assessment techniques; instructional approaches, and lesson planning for elementary students.

Prerequisite: Benchmark I Completed

ECE-310 Middle Childhood: Curriculum and Methods for Teaching Science

ECE-310 Middle Childhood: Curriculum and Methods for Teaching Science

(2 cr.)

Repeatable for Credit: No

Curriculum, methods, and assessment in middle childhood science teaching for children ages 9 through 11. Knowledge and performances in the areas of planning, classroom management, instruction, and professional responsibilities of reflection, communication are the focus.

Prerequisite: Benchmark I Completed

ECE-311 Middle Childhood: Curriculum and Methods for Teaching Math

ECE-311 Middle Childhood: Curriculum and Methods for Teaching Math

(2 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing and evaluating mathematics curricula for elementary classrooms (grades 4-6). emphasis is placed on: 1) utilizing process skills, 2) fostering content knowledge in the mathematical areas, 3) assessment, 4) mathematical content instruction, and 5) building positive attitudes for the mathematical classroom. Students will continue to develop skills in the classroom environment while maintaining professional responsibilities for teaching at the elementary level.

Prerequisite: Benchmark I completion

ECE-312 Middle Childhood: Curriculum and Methods for Social Studies

ECE-312 Middle Childhood: Curriculum and Methods

for Social Studies

(2 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing and evaluating social studies curricula for elementary classrooms(grades 4-6). emphasis is placed on: 1) utilizing development skills, 2) fostering content knowledge in the content of social studies, 3) assessment, 4) social studies content instruction, and 5) building positive attitudes for the teaching of social studies in the classroom. Develop skills in the classroom environment and maintain professional responsibilities for teaching at the elementary level.

Prerequisite: Benchmark I completion

ECE-313 Language Arts and Emergent Reading: Birth-Kindergarten

ECE-313 Language Arts and Emergent Reading: Birth-Kindergarten

(3 cr.)

Repeatable for Credit: No

Methods and materials for planning, implementing, and evaluating language arts with children Birth-Kindergarten. Emphasis is on developing emergent literacy skills and language arts.

Prerequisite: Completion of Tier 2 and Benchmark 1, and concurrent enrollment in ECE-305

ECE-314 Middle Childhood: Curriculum and Methods Language Arts

ECE-314 Middle Childhood: Curriculum and Methods Language Arts

(2 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing and evaluating reading/language arts curricula for elementary classrooms (grades 4-6). Emphasis is placed on: 1) utilizing development skills, 2) fostering content knowledge in the content of reading/language arts, 3) assessment, 4) reading/language arts content instruction, and 5) building positive attitudes for the teaching of reading/language arts in the classroom. Develop skills in the classroom environment and maintain professional responsibilities for teaching at the elementary level.

Prerequisite: Benchmark 1 Completion

ECE-411 Early Childhood Curriculum: Mathematics

ECE-411 Early Childhood Curriculum: Mathematics

(3 cr.)

Repeatable for Credit: No

Mathematics curriculum planning for early childhood. Selection, organization, presentation, and evaluation of appropriate curricula.

Prerequisites: take ECE-421, ECE-435, and ECE-480

ECE-414 Early Childhood Clinical Experience: Integrated Curriculum

ECE-414 Early Childhood Clinical Experience:

Integrated Curriculum

(2 cr.)

Repeatable for Credit: No

Development of competencies in planning, teaching, and evaluating the integrated curriculum for the early childhood period.

Participation in an early childhood setting required.

Prerequisite: Benchmark I completion

ECE-415 Early Childhood Curriculum: Science/Social Studies

ECE-415 Early Childhood Curriculum: Science/Social Studies

(4 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing, and evaluating early childhood social studies and science curriculum.

Prerequisites: take ECE-421, ECE-435, and ECE-480

ECE-421 Administration Of Early Childhood Programs

ECE-421 Administration Of Early Childhood Programs

(2 cr.)

Repeatable for Credit: No

A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs in a safe and healthy environment.

Completion of Tier 3: ECE-313 and ECE-305

ECE-426 Classroom Management in the Primary Classroom

ECE-426 Classroom Management in the Primary Classroom

(2 cr.)

Repeatable for Credit: No

Advanced study of managing early childhood classrooms. Management of the physical environment, instructional context, including large and small groups, and social context; building a classroom community; encouraging collaborative learning; assessing management of early childhood classrooms; and analysis of classroom management programs. Microclinical in early childhood classrooms required.

Prerequisites: take ECE-421, ECE-435, and ECE-480

ECE-427 Child Abuse and Neglect

ECE-427 Child Abuse and Neglect

(2 cr.)

Repeatable for Credit: No

Systemic nature, forms and indicators, and prevention of abuse/neglect. Factors contributing to, and intervention skills in, coping with the effects of abuse/neglect on children and families at risk.

ECE-433 Language Arts/Reading--Early Childhood Education

ECE-433 Language Arts/Reading--Early Childhood Education

(3 cr.)

Repeatable for Credit: No

Current philosophies, methodology and materials for teaching reading: readiness activities and beginning reading in early childhood.

ECE-435 Children, Families, Schools and Communities

ECE-435 Children, Families, Schools and Communities

(2 cr.)

Repeatable for Credit: No

Building family, school, and community partnerships to support the whole child. Demographics and sociological trends of modern families. Theories and processes used to establish positive and sustaining home-school-community relationships.

Completion of Tier 3: ECE-313 and ECE-305

ECE-449 Cooperative Education Experience

ECE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ECE-464 Special Topics in Early Childhood Curriculum

ECE-464 Special Topics in Early Childhood Curriculum

(1-3 cr.)

Repeatable for Credit: Yes

Philosophy and methodology of early childhood education: problems confronting teachers.

ECE-480 Pre-Student Teaching: Infant-Preschool

ECE-480 Pre-Student Teaching: Infant-Preschool

(4-8 cr.)

Repeatable for Credit: No

Full-day, pre-student teaching placement for eight weeks. Age group includes infants or toddlers or preschoolers. Placement will include involvement with young children and parents. Teacher candidates will be supervised by faculty in the early childhood area. Placement will follow the school calendar.

Prerequisite(s): Completion of Tier 3: ECE-313 and ECE-305

ECE-480A Student Teaching in Preschool Programs

ECE-480A Student Teaching in Preschool Programs

(4 cr.)

Repeatable for Credit: No

Directed teaching and community experience in selected early childhood centers.

Department Consent

ECE-488 Intern Teaching

ECE-488 Intern Teaching

(8-16 cr.)

Repeatable for Credit: No

An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester.

Department Consent

ECE-492 Student Teaching in Prekindergarten

ECE-492 Student Teaching in Prekindergarten

(8 cr.)

Repeatable for Credit: No

Full-day student teaching experience at the prekindergarten level in a preschool setting, together with a weekly one-hour student teaching seminar session. The student teaching experience follows the calendar of the preschool.

Department Consent

Prerequisites: Must be an Early Childhood Education major; take HDFS-335 and ECE-433

ECE-493 Student Teaching: Kindergarten

ECE-493 Student Teaching: Kindergarten

(4-8 cr.)

Repeatable for Credit: No

Full-day student teaching at the kindergarten level in a public school setting. Experience will follow the public school district calendar.

Department Consent

Prerequisite: Professional Program Admission

ECE-494 Student Teaching: Primary

ECE-494 Student Teaching: Primary

(4-8 cr.)

Repeatable for Credit: No

Full-day student teaching at the primary level (grades 1-3) in a public school setting. Primary student teaching experience follows the public school district calendar.

Department Consent

Prerequisite: Professional Program Admission

ECE-499 Independent Study

ECE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Economics

ECON-199 Independent Study

ECON-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ECON-201 General Economics

ECON-201 General Economics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to basic economic principles and methods. Microeconomics deals with choices of consumers and firms, market structure, price theories, and taxes. The course covers macroeconomics issues such as national income (GDP), economic growth and development, employment, inflation, money and Federal Reserve, interest rate, investment, the exchange rate, and International Trade.

ECON-210 Principles of Macroeconomics

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity

cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

ECON-215 Principles of Microeconomics

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

ECON-249 Cooperative Education Experience

ECON-249 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ECON-250 Introduction to Environmental Economics and Policy

ECON-250 Introduction to Environmental Economics and Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Economic analysis of environmental issues. How economic systems can form incentives for either environmental degradation and improvement. How producers and consumers in the market system experience the responsibility to protect the environment. Topics include market failure, the valuation of nonmarket goods, cost-benefit analysis, Environmental Justice, and environmental policy analysis.

ECON-299 Independent Study

ECON-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ECON-310 Economics of Conflict

ECON-310 Economics of Conflict

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Economic analysis of conflict: How basic tools of economics are used to better understand the causes of conflict, how collective action and political constraints moderate conflict, the effect of conflict on political institutions and economic development, and how political risk affects international business investment decisions.

ECON-335 Personal Investing

ECON-335 Personal Investing

(3 cr.)

Repeatable for Credit: No

Terminology, evaluation, selection and risk analysis of all types of investment vehicles: stocks, bonds, mutual funds, and enhanced traded funds.

Prerequisites: take either ECON-201 or ECON-210

ECON-349 Cooperative Education Experience

ECON-349 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ECON-350 Environmental and Natural Resource Economics

ECON-350 Environmental and Natural Resource Economics

(3 cr.)

Repeatable for Credit: No

Principles underlying use of natural resources including demand and supply; efficiency; cost effectiveness and benefit-cost analysis; sustainability; optimal pricing; and management of renewable and non-renewable resources. Principles are applied to the examination of pollution control, preservation versus development, recycling, and other environmental and natural resource issues and policies.

Prerequisites: take either ECON-201 or ECON-210

ECON-360 Strategic Decision Making and Game Theory

ECON-360 Strategic Decision Making and Game Theory

(3 cr.)

Analytic Reasoning and Natural Science, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Strategic behavior and game theoretic approaches for problem solving and social analysis with particular application to economics,

politics, and sociology as well as business and industry applications; mechanisms for sustainable conflict resolution, ethical and socially responsible decision making, and optimal individual and group choice.

ECON-380 Business and Economic Forecasting

ECON-380 Business and Economic Forecasting

(3 cr.)

Repeatable for Credit: No

Quantitative methods used in economics and business forecasting. topics include descriptive statistics, hypothesis testing, correlation, regression analysis and forecasting. Real business applications of these techniques are emphasized.

Prerequisites: take ECON-201 or ECON-215; and take STAT 130 or STAT-320

ECON-399 Independent Study

ECON-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ECON-410 Microeconomics

ECON-410 Microeconomics

(3 cr.)

Repeatable for Credit: No

Value and distribution theory; analysis of demand- firm, industry and utility; pricing of production factors.

Prerequisite: take ECON-215

ECON-415 Macroeconomics

ECON-415 Macroeconomics

(3 cr.)

Repeatable for Credit: No

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment.

Prerequisite: take ECON-215

ECON-420 Labor Economics

ECON-420 Labor Economics

(3 cr.)

Repeatable for Credit: No

Basic labor theory; history of organized labor in western industrial societies; collective bargaining as viewed by labor, management,

government and public; institutions involved in modern labor relations.
Prerequisites: take either ECON-201 or ECON-210

ECON-421 Collective Bargaining & Labor Relations

ECON-421 Collective Bargaining & Labor Relations

(2 cr.)

Repeatable for Credit: No

Introduction to collective bargaining in the U.S.; formation, substance and administration of a labor agreement, current labor law, role of National Labor Relations Board.

Prerequisites: take either ECON-201 or ECON-210

ECON-425 Economic Development

ECON-425 Economic Development

(3 cr.)

Repeatable for Credit: No

Analysis of the economies of less developed countries in an institutional and international framework to understand the social and economic realities of people living in these regions. Evaluation of economic policies and their impact on development.

Prerequisite: take ECON 215

ECON-435 Money, Banking, Financial Markets

ECON-435 Money, Banking, Financial Markets

(3 cr.)

Repeatable for Credit: No

This course teaches the foundational tools that economists use to analyze and evaluate financial markets and the macroeconomy in the short to medium term. The Federal Reserve and their role as the monetary authority are a central theme in the class. The course focuses on the importance of financial markets and their impact on the wider economy. There is a strong emphasis placed on applying knowledge learned in the class to current macroeconomic themes and events in creative ways.

Prerequisites: take either ECON-201 or ECON-210

ECON-445 Public Finance

ECON-445 Public Finance

(3 cr.)

Repeatable for Credit: No

Public finance at all governmental levels; taxation, expenditures, debt management and fiscal policy.

Prerequisites: take either ECON-201 or ECON-210

ECON-449 Cooperative Education Experience

ECON-449 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ECON-480 International Economics

ECON-480 International Economics

(3 cr.)

Repeatable for Credit: No

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics related to trade models, tariffs, exchange rates and balance of payments.

Prerequisite: take ECON-210

ECON-490 Industrial Organization

ECON-490 Industrial Organization

(3 cr.)

Repeatable for Credit: No

Economic analysis of imperfect competition under a variety of market structures. Firms in imperfectly competitive markets make strategic decisions. Microeconomics analysis of profit-maximization, pricing, vertical/horizontal integration, advertising, efficiency, and public policy is expanded to understand market outcome under various strategies. Effects of imperfect markets and regulation on welfare and efficiency.

No

Prerequisite(s): take ECON 215 or instructor permission

ECON-496 Economic Growth

ECON-496 Economic Growth

(3 cr.)

Repeatable for Credit: No

Development of the analytical tools used by economists to understand the determinants of increases in material well-being over time. Examination of questions regarding the importance of physical capital, education, health, technology and governmental policies in analyzing world-wide differences in production and economic growth. Focus on using real-world data to fit the analytical models to the modern world.

Prerequisite: take ECON 210

ECON-499 Independent Study

ECON-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Education

ECE-315 Student Teaching in Elementary Grades 4-6

ECE-315 Student Teaching in Elementary Grades 4-6

(2-8 cr.)

Repeatable for Credit: No

Observations, direct teaching, and experiences in selected school settings for grades 4-6. Supervised by a licensed elementary educator/administrator and UW-Stout supervising instructor.

Department Consent

Prerequisite: Enrollment by consent of the Clinical Placement Coordinator

EDUC-10 Praxis I: Pre-Professional Skills Test Writing Preparation

EDUC-10 Praxis I: Pre-Professional Skills Test Writing Preparation

(1 cr.)

Repeatable for Credit: Yes

Designed to prepare education students for the PPST:Writing test. Structured writing format and learning strategies to develop an organized and authoritative approach to professional writing.

EDUC-11 Praxis I: Reading Comprehension

EDUC-11 Praxis I: Reading Comprehension

(1 cr.)

Repeatable for Credit: Yes

Utilization of a structured reading comprehension format and metacognitive learning strategies to improve the reading comprehension skills needed by education students. Study of specific reading comprehension elements assessed in the standardized test that all pre-service teachers are expected to pass.

EDUC-170 Video Games and Simulations in Educational Environments

EDUC-170 Video Games and Simulations in Educational Environments

(2 cr.)

Repeatable for Credit: No

Philosophical, theoretical, design and implementation issues relative to incorporating games and simulations within educational and training environments. Emphasis will be placed on education environments.

EDUC-199 Independent Study

EDUC-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

EDUC-210 Impacts of Technology on Learning

EDUC-210 Impacts of Technology on Learning

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

The impacts of technology on individual learners and society; the role technology plays in both the information and formal education of individuals; contemporary developments and issues related to the use of technology in individual and collective learning scenarios.

EDUC-211 Technology, Fab Lab, and Society

EDUC-211 Technology, Fab Lab, and Society

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Historical, social, political and technological survey of design and prototyping in context of digital fabrication spaces.

EDUC-260 Images of Education: Not Another Brick in the Wall

EDUC-260 Images of Education: Not Another Brick in the Wall

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

A multidisciplinary approach to the experience of becoming educated; an opportunity to understand education from a critical reading of historical, philosophical, literary and cinematic explorations about school and schooling.

EDUC-299 Independent Study

EDUC-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

EDUC-303 Educational Psychology

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-304 Secondary Curriculum Methods and Assessment

EDUC-304 Secondary Curriculum Methods and Assessment

(2 cr.)

Repeatable for Credit: No

Discipline-specific curriculum, methods, and assessment procedures for teaching content minors.

Department Consent

Prerequisite: Benchmark I completion

EDUC-305 Student Teaching

EDUC-305 Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Directed teaching in school setting in subject area consistent with teaching minor or add-on certification. Completion of teacher work sample and portfolio.

Department Consent

Prerequisite: Benchmark II completion

EDUC-307 Racial and Cultural Perspectives on Applied Human Relations

EDUC-307 Racial and Cultural Perspectives on Applied Human Relations

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Major themes on how race and ethnicity shape personal and interpersonal relationships.

EDUC-320 Racism and Colonialism: Impact on Communities and Education

EDUC-320 Racism and Colonialism: Impact on Communities and Education

(3 cr.)

Racial & Ethnic Studies Category A, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Study of systemic hegemony as race, ethnicity, gender, and social class, with a focus on education, language and literature practices, and communities in the United States, Europe, and the societies they colonized. Critical and creative learning experience to evaluate the impact of colonialism, neo-colonialism, and empire on schools and communities.

EDUC-326 Foundations of Education

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

EDUC-330 Multiculturalism: Dialogue and Field Experience

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

EDUC-336 Multiculturalism: Issues & Perspectives

EDUC-336 Multiculturalism: Issues & Perspectives

(2 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

An intensive examination of multiculturalism in U.S. and global schools and communities. Examination of the educational and cultural needs of diverse social and cultural groups. Discussion of hegemony, and cultural, race, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Strategies for educational and socioeconomic equity.

EDUC-349 Methods of Teaching Middle School Math

EDUC-349 Methods of Teaching Middle School Math

(3 cr.)

Repeatable for Credit: No

Research, issues and problems related to current reform in teaching middle school mathematics, including planning curriculum, assessing student learning, managing instruction, and providing for individual needs.

EDUC-376 Cross-Cultural Field Experience

EDUC-376 Cross-Cultural Field Experience

(1 cr.)

Repeatable for Credit: No

Supervised field experience in an educational setting with diverse learners to increase awareness, understanding, sensitivity, and appreciation for ethnic and cultural diversity. The acquisition of knowledge, skills, and professional dispositions necessary for educators to facilitate learning for all students are emphasized.

Benchmark I Completed

EDUC-380 Reading and Language Arts in Elementary Education

EDUC-380 Reading and Language Arts in Elementary Education

(3 cr.)

Repeatable for Credit: No

Current philosophies in reading and language arts education, the centrality of language arts to the elementary curriculum and methodologies for the elementary classroom.

Benchmark I Completed

EDUC-381 Preclinical: Elementary Ed Language Arts and Reading

EDUC-381 Preclinical: Elementary Ed Language Arts and Reading

(1 cr.)

Repeatable for Credit: No

Supervised teaching experience in developing the prospective teacher's ability in elementary education language arts and reading skills.

Benchmark I Completed

EDUC-399 Independent Study

EDUC-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

EDUC-400 Workshop: Introduction to Professional Learning Communities

EDUC-400 Workshop: Introduction to Professional Learning Communities

(3 cr.)

Repeatable for Credit: No

Shared-knowledge base of the literature describing professional learning communities and how a professional learning community could be created and would function in a specific school setting.

EDUC-400 Workshop: Special Topics In Education

EDUC-400 Workshop: Special Topics In Education

(1-3 cr.)

Repeatable for Credit: Yes

Current specialized topics studied through experimental activities.

EDUC-401 Global Education Practicum

EDUC-401 Global Education Practicum

(3 cr.)

Repeatable for Credit: No

Experiential learning opportunity to provide student with in-depth study of one or more of the global education sub-groups: human rights and social justice, human commonality and diversity, population demographics, planet management, global belief systems, economic systems, conflict and control, political systems, science and technology and/or sustainable development.

EDUC-402 Global Perspectives for Educators

EDUC-402 Global Perspectives for Educators

(3 cr.)

Global Perspective

Repeatable for Credit: No

Strategies for infusing global perspectives into the classroom for those working in globalized organizations. Methodology, materials and instructional strategies necessary for effective implementation of global education in schools and individual classrooms as well as within global organizations. Topics/issues related to globalization to develop a foundation from which teachers and other leaders in organizations can draw ideas for their specific needs.

EDUC-403 Educational Psychology of the Adult Learner

EDUC-403 Educational Psychology of the Adult Learner

(2 cr.)

Repeatable for Credit: No

Psychological principles and theoretical framework guiding the educational process for adult learners. Special focus on planning and evaluating instruction while utilizing active learning to build strong learning communities.

EDUC-404 Fab Labs in Education

EDUC-404 Fab Labs in Education

(1-3 cr.)

Repeatable for Credit: No

Utilization of digital manufacturing technologies to facilitate science, technology, engineering and math education with an emphasis on engineering design and enterprise-based pedagogies that are developmentally and academically appropriate for middle and high school students.

EDUC-415 Classroom Management

EDUC-415 Classroom Management

(2-3 cr.)

Repeatable for Credit: No

Technique and theory for motivating PreK-grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences.

EDUC-416 Conflict Resolution and Crisis Management for Educators

EDUC-416 Conflict Resolution and Crisis Management for Educators

(2 cr.)

Repeatable for Credit: No

Conflict mediation and crisis intervention strategies in school settings.

EDUC-423 Service Learning and Civic Engagement

EDUC-423 Service Learning and Civic Engagement

(1-3 cr.)

Repeatable for Credit: No

Civic engagement and service to others in partnership with community agencies. Interpersonal communications and relationship skills; service to under-served and underrepresented populations; social justice; service provider role in civic engagement.

EDUC-440 Poverty in the Schools

EDUC-440 Poverty in the Schools

(2 cr.)

Repeatable for Credit: No

Characteristics and issues facing students from economically disadvantaged backgrounds. Traits of high-performing, high-poverty schools with emphasis on strategies to reduce the achievement gap and build community partnerships. Intended for teachers in the field.

EDUC-441 Mobile Learning Instructional Design

EDUC-441 Mobile Learning Instructional Design

(3 cr.)

Repeatable for Credit: No

Mobile learning research, trends, instructional design strategies for curriculum integration and professional development.

EDUC-442 Teaching Digital Media Literacy in the Content Areas

EDUC-442 Teaching Digital Media Literacy in the Content Areas

(2 cr.)

Repeatable for Credit: No

Research-based strategies for analyzing, critiquing and engaging with digital text, video, images and diverse multimedia primary sources in the PK-12 classroom to stimulate inquiry, creativity and critical thinking.

EDUC-443 Differentiated Instruction

EDUC-443 Differentiated Instruction

(3 cr.)

Repeatable for Credit: No

Research-based instructional methods to meet the varied needs of all learners in today's classrooms, including English language learners, students with a variety of learning styles and abilities and interests. Alternative assessment methods and strategies to manage a differentiated instructional setting.

EDUC-445 School-wide Positive Behavioral and Intervention Support

EDUC-445 School-wide Positive Behavioral and Intervention Support

(3 cr.)

Repeatable for Credit: No

Principles of school-wide positive behavioral interventions and supports (PBIS). Roles and functions of the PBIS team, action planning for sustainable practices, data collection systems and tools, and data analysis for planning three-level interventions and monitoring progress.

EDUC-446 Using Games for Learning and Assessment

EDUC-446 Using Games for Learning and Assessment

(1 cr.)

Repeatable for Credit: No

Integration of interactive games and simulations with the curriculum, implications for effective assessment. Use of games to support collaboration, problem solving, decision making, and to increase motivation and engagement in the classroom, including benefits and drawbacks.

EDUC-447 Teaching Students with Autism in the Inclusive Classroom

EDUC-447 Teaching Students with Autism in the Inclusive Classroom

(3 cr.)

Repeatable for Credit: No

Strategies to address the varied social and academic needs of students with Autism Spectrum Disorders in the inclusive classroom; functional behavior assessment and behavior intervention plans, educational interventions, and technology considerations.

EDUC-448 Math Assessment for Response to Intervention

EDUC-448 Math Assessment for Response to Intervention

(2 cr.)

Repeatable for Credit: No

Principles of using universal screeners and curriculum-based measures (CBMs) to assess student performance in mathematics. Use of assessment tools in mathematics to identify learning problems, to monitor student growth, and implement Response to Intervention (RTI) practices.

EDUC-450 Integrating Social Media Instructional Strategies

EDUC-450 Integrating Social Media Instructional Strategies

(1 cr.)

Repeatable for Credit: No

Social media instructional strategies for professional development, global collaborative initiatives, learning-community development and collaborations. Digital citizenship and learning outcomes and assessment using social media.

EDUC-451 Project-based Learning in the Flipped Classroom

EDUC-451 Project-based Learning in the Flipped Classroom

(2 cr.)

Repeatable for Credit: No

Instructional strategies for design, management, and assessment of standards-focused, project-based learning (PBL) in the flipped classroom. Use of multimedia and online resources to support collaboration and increase learner motivation and engagement.

EDUC-452 Accessibility and Universal Design for Learning

EDUC-452 Accessibility and Universal Design for Learning

Learning

(2 cr.)

Repeatable for Credit: No

Instructional design strategies that support a wide range of learner differences. Creation of barrier-free learning by applying accessibility tools and universal design concepts.

EDUC-453 Middle School Through Adult 6-Traits Writing Instruction

EDUC-453 Middle School Through Adult 6-Traits Writing Instruction

(3 cr.)

Repeatable for Credit: No

Concepts, instructional methods and assessment strategies for improving writing instruction, middle school through postsecondary. Self-assessment strategies, application of 6-traits, technology and software applications, and writing across the curriculum.

EDUC-454 PK Through Elementary 6-Traits Writing Instruction

EDUC-454 PK Through Elementary 6-Traits Writing Instruction

(3 cr.)

Repeatable for Credit: No

Application of the 6-Traits theory to assessment and instruction of student writing in PK through grade 4. Study of the continuum of primary and elementary language arts skills and writing across the curriculum.

EDUC-455 Strategies for Dealing with Disruptive Behavior

EDUC-455 Strategies for Dealing with Disruptive Behavior

(3 cr.)

Repeatable for Credit: No

Evidence-based preventive strategies, effective interventions, and classroom management strategies for addressing problem behaviors, chronic noncompliance and intermittent disruptive conduct.

EDUC-456 Bullying in Schools

EDUC-456 Bullying in Schools

(2 cr.)

Repeatable for Credit: No

Issues, educational interventions and instructional strategies for creating a safe learning environment to break the cycle of bullying and cyber bullying.

EDUC-457 Effective Classroom Management

EDUC-457 Effective Classroom Management

(2 cr.)

Repeatable for Credit: No

Research-based strategies for effective management of the K-12 classroom including organization of time, physical space, curriculum, instruction, and assessment to minimize and prevent classroom management problems and create a classroom culture that supports cooperative learning.

EDUC-458 Issues in STEM Education

EDUC-458 Issues in STEM Education

(3 cr.)

Repeatable for Credit: No

Issues related to science, technology, engineering and mathematics (STEM) education; research-based instructional strategies for engaging diverse learners, and career pathways in STEM-related fields.

EDUC-461 Advances Trends and Issues in PK-5 Mathematics Teaching

EDUC-461 Advances Trends and Issues in PK-5 Mathematics Teaching

(3 cr.)

Repeatable for Credit: No

Research, issues and problems related to teaching PK-5 mathematics, including problem-based learning, curricular decision-making, diagnosis and remediation, and building assessment into instruction.

EDUC-462 Leadership for Math Specialists

EDUC-462 Leadership for Math Specialists

(3 cr.)

Repeatable for Credit: No

Using theory, research-based evidence, data and organizational change principles to develop, lead, evaluate, and improve PK-12 mathematics programs.

EDUC-463 Leadership for Math Specialists

EDUC-463 Leadership for Math Specialists

(3 cr.)

Repeatable for Credit: No

Using theory, research-based evidence, data and organizational change principles to develop, lead, evaluate, and improve PK-12 mathematics programs.

EDUC-464 Teaching K-12 Computational Thinking

EDUC-464 Teaching K-12 Computational Thinking

(3 cr.)

Repeatable for Credit: No

Research, issues and problems related to teaching K-12 computational thinking, including problem-based learning, computer coding and applications in STEMM-related fields.

EDUC-465 Mindful Approaches to Classroom Management

EDUC-465 Mindful Approaches to Classroom Management

(3 cr.)

Repeatable for Credit: No

Research-based strategies to improve class climate that integrate Mindful practices and improve students' social emotional learning, self-regulation, motivation and academic performance while reducing test anxiety and bullying. Mindful approaches applied to student-teacher interpersonal communication and to the organization of space, routines and procedures at all grade levels.

EDUC-495 Personal Learning Experience

EDUC-495 Personal Learning Experience

(2 cr.)

Repeatable for Credit: No

An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience.

EDUC-496 Student Teaching

EDUC-496 Student Teaching

2 cr.-(16 cr.)

Repeatable for Credit: Yes

Student teaching experience to facilitate the completion of the Educative Teaching Performance Assessment (EdTPA). P: Must have completed Benchmark II.

Prerequisite: Benchmark II completion

EDUC-497 Student Teaching

EDUC-497 Student Teaching

(2-16 cr.)

Repeatable for Credit: Yes

Student teaching experience to facilitate the completion of the Educative Teacher Performance Assessment (EdTPA). P: Must have completed Benchmark II.

Prerequisite: Benchmark II

EDUC-499 Independent Study

EDUC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Engineering

ENGR-275 Thermodynamics & Heat Transfer

ENGR-275 Thermodynamics & Heat Transfer

(3 cr.)

Repeatable for Credit: No

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisite: take PHYS-291 and MATH-250 (which may be taken concurrently)

ENGR-290 Circuits and Devices

ENGR-290 Circuits and Devices

(4 cr.)

Repeatable for Credit: No

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits.

Prerequisites: take MATH-154 and PHYS-282

ENGR-292 Dynamics

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

ENGR-294 Mechanics of Materials

ENGR-294 Mechanics of Materials

(3 cr.)

Repeatable for Credit: No

Normal and shear stresses and strains. Stresses and deformations in objects subject to axial, torsional, and flexural loadings. Shear and bending moment diagrams. Stress transformations and principle stresses.

Prerequisite: take PHYS-291

ENGR-315 Metallurgy

ENGR-315 Metallurgy

(3 cr.)

Repeatable for Credit: No

Properties of crystalline solids, mechanical behavior, phase diagrams, iron-carbon diagram, metallurgical structure, diffusion, phase transformation and heat treatment. Processing, properties, and applications of ferrous and non-ferrous alloys.

Prerequisite: take CHEM 341

ENGR-325 Computer Aided Manufacturing for Manufacturing Engineers

ENGR-325 Computer Aided Manufacturing for Manufacturing Engineers

(3 cr.)

Repeatable for Credit: No

Effects of product mix and demand patterns on manufacturing system design and selection of process control methods. Introduction to quick changeover strategies and reprogrammable automation including numerically controlled machine tools, robotics, group technology, CAD/CAM, automated inspection and other computerized processing techniques.

Prerequisites: take ETECH-210, and take ETECH-252 or ETECH-341

ENGR-363 Controls and Instrumentation

ENGR-363 Controls and Instrumentation

(4 cr.)

Repeatable for Credit: No

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control. Introduction to motion control.

Prerequisites: take MATH-250

ENGR-365 Control Theory

ENGR-365 Control Theory

(2 cr.)

Repeatable for Credit: No

Mathematical modeling of electrical and mechanical systems, stability analysis, and frequency response. Laplace transforms and transfer functions. Introduction to classical control theory. Controller design for stabilization and/or performance.

Prerequisites: take ENGR-290 and MATH-250; not for students taking ENGR-363

ENGR-391 Fluid Mechanics

ENGR-391 Fluid Mechanics

(3 cr.)

Repeatable for Credit: No

Fundamentals and engineering applications of fluid mechanics.

Prerequisite: take ENGR-275 or ME 390

ENGR-400 Lecture Series in Engineering

ENGR-400 Lecture Series in Engineering

(1 cr.)

Repeatable for Credit: No

Current topics in engineering and related disciplines. Guest speakers are invited from both academia and industry. This course is intended to broaden the technical and employment horizons for engineering students. The lecture series is open to the public.

Prerequisite: Senior Standing

ENGR-415 Machine Vision and Robotics

ENGR-415 Machine Vision and Robotics

(2 cr.)

Repeatable for Credit: No

Design of machine vision and industrial robotic applications, including cost justification.

Prerequisites: take INMGT-300 and ENGR 292

Engineering Technology

ET-100 Introduction to Engineering Technology

ET-100 Introduction to Engineering Technology

(1 cr.)

Repeatable for Credit: No

Definition, history, and future of the engineering technology field and the present and emerging concentration areas. Business and industry links to options within engineering technology and the necessary preparation to meet graduates' future professional demands.

ET-204 Electricity/Electronics Fundamentals

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-260 Electrical Circuits

ET-260 Electrical Circuits

(3 cr.)

Repeatable for Credit: No

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take ET 204, MATH 153 and either PHYS 242 or PHYS 282

ET-271 Digital Logic and Switching

ET-271 Digital Logic and Switching

(3 cr.)

Repeatable for Credit: No

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebra and number systems, switching functions, minimization, single and multiple output networks, realization of functions, programmable logic devices. Finite state sequential machines, state transition diagrams, machines and state equivalence. Algorithmic state machines and asynchronous state machines.

Prerequisite: take ET-260

ET-272 Solid State Electronics

ET-272 Solid State Electronics

(3 cr.)

Repeatable for Credit: No

Basic semiconductor theory dealing with signals, operational amplifiers, diodes, bipolar junction and field effect transistor, frequency response, feedback, and circuit analysis.

Prerequisite: take ET 260

ET-290 Statics and Dynamics

ET-290 Statics and Dynamics

(3 cr.)

Repeatable for Credit: No

Force systems and equilibrium in 2 and 3 dimensions, free body diagrams, trusses, frames, friction. Kinematic analysis of particle and rigid body translation, rotation, and general plane motion. Force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, and forced vibrations.

Prerequisites: take PHYS-241 or PHYS-281 and MATH 153

ET-291 Strength of Materials

ET-291 Strength of Materials

(3 cr.)

Repeatable for Credit: No

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

Prerequisite: take ET 290

ET-320 Prototype Development and Model Making

ET-320 Prototype Development and Model Making

(3 cr.)

Repeatable for Credit: No

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three- dimensional objects using traditional and nontraditional machining and forming techniques. Three-dimensional design problems form the core of this course.

Prerequisites: take ETECH-110 or ETECH-150 or PKG-210

ET-332 Design of Machine Components

ET-332 Design of Machine Components

(4 cr.)

Repeatable for Credit: No

Load analysis, stress analysis, and failure analysis. Design of machine elements including fasteners, gearing, bearings, shafts and other power transmission components.

Prerequisites: take ET-291

ET-340 Motors and Generators

ET-340 Motors and Generators

(3 cr.)

Repeatable for Credit: No

Practical approach to basic operating theory, construction, maintenance of generators, motors, transformers, and machine control.

Prerequisite: take ET 260

ET-341 Electrical and Mechanical Interface Devices

ET-341 Electrical and Mechanical Interface Devices

(3 cr.)

Repeatable for Credit: No

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and

mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control.

Prerequisites: take ET-204, either PHYS 242 or PHYS 282 and ETECH-260

ET-349 Cooperative Education Experience

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-374 Fundamentals Of Microprocessors and Microcomputer Systems

ET-374 Fundamentals Of Microprocessors and Microcomputer Systems

(3 cr.)

Repeatable for Credit: No

Concepts of microprocessors, microcomputer architecture, assembly language programming and peripheral components. Hardware topics include 80 x 86 processors, interrupts, bios, serial and parallel interfaces, video displays, hard drives, CD roms, memory devices and local and peripheral buses.

Prerequisites: take ET-271, ET 272 and CS 145

ET-382 Electronic Communications

ET-382 Electronic Communications

(3 cr.)

Repeatable for Credit: No

Electrical/electronic communication systems, modulation, demodulation, R.F. and I.F. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters, spectral representation of signals, amplitude modulation, AM/FM transmitters, side band transmission, AM/FM receivers, and frequency modulation.

Prerequisite: take ET 260

ET-393 Design of Machines and Mechanisms

ET-393 Design of Machines and Mechanisms

(3 cr.)

Repeatable for Credit: No

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces.

Prerequisite: take ET-290

ET-399 Independent Study

ET-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ET-405 Capstone I: Design Practicum

ET-405 Capstone I: Design Practicum

(3 cr.)

Repeatable for Credit: No

Capstone course for all Engineering Technology concentrations. Practical application of concentration topic in a team project.

Creativity, documentation standards, design for manufacturability, design analysis, team dynamics, finite element analysis, and communication skills are applied to an industrial standard in the design of a machine, system, or product.

Prerequisites or concurrent enrollment in ET-332 or ETECH-343 or INMGT-440 or INMGT-365 or ET-374; Senior status

ET-410 Capstone II: Design Lab

ET-410 Capstone II: Design Lab

(3 cr.)

Repeatable for Credit: No

An experimental study in the design of electro- mechanical systems. Design, functional prototype construction, experimentation and validation of systems are emphasized.

Prerequisites: take ET-405 and ET-341

ET-422 Research and Development

ET-422 Research and Development

(3 cr.)

Repeatable for Credit: No

Research and development procedures applied to specific industrial material and processing problems.

Prerequisites: take ETECH 205

ET-449 Cooperative Education Experience

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ETECH-100 Impacts of Engineering

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

ETECH-103 Power Mechanics

ETECH-103 Power Mechanics

(2 cr.)

Repeatable for Credit: No

Internal and external combustion heat engines, mechanical and fluid transmission systems; present and future applications and limitations. Laboratory work emphasized.

ETECH-110 Materials and Manufacturing Processes

ETECH-110 Materials and Manufacturing Processes

(3 cr.)

Repeatable for Credit: No

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

ETECH-112 Engineering Graphics Fundamentals

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-150 Introduction to Engineering Materials

ETECH-150 Introduction to Engineering Materials

(3 cr.)

Repeatable for Credit: No

Exposure to engineering materials, their properties, and behavior. topics will include: material types, testing, mechanical properties, heat treatment, and material selection. Students are expected to have had H.S. chemistry.

Math Placement >= MATH-120, or MATH-150

ETECH-199 Independent Study

ETECH-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ETECH-202 Welding and Casting Processes

ETECH-202 Welding and Casting Processes

(3 cr.)

Repeatable for Credit: No

Lab intensive class utilizing various processes and parameters in the welding and foundry areas.

Prerequisite: take ETECH-110

ETECH-203 Machining Metal Forming Processes

ETECH-203 Machining Metal Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development.

Prerequisite: take ETECH-110

ETECH-204 Polymer Processes

ETECH-204 Polymer Processes

(3 cr.)

Repeatable for Credit: No

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products.

Prerequisite: take ETECH-110

ETECH-205 Design for Industry

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

ETECH-210 Engineering Graphics Using Solid Modeling

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

ETECH-250 Introduction to Plastics

ETECH-250 Introduction to Plastics

(3 cr.)

Repeatable for Credit: No

Examine basics of molecular structure, mechanical behavior, and rheological properties of plastics. Overview of plastics processing, new technologies related to processing, post-consumer-life, and introduction to ASTM/ISO standards used for testing and materials characterization.

Prerequisite: take either ETECH-150, ETECH 100, or ETECH 110

ETECH-251 Fundamentals of Plastics Materials and Processing

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

ETECH-252 Material Removal And Forming Processes

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-256 Engineering Graphics Fundamentals and Solid Modeling

ETECH-256 Engineering Graphics Fundamentals and Solid Modeling

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate CAD (modeling) software, visualization, geometric concepts and dimensioning basics.

ETECH-260 Introduction to Fluid Power

ETECH-260 Introduction to Fluid Power

(2 cr.)

Repeatable for Credit: No

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

ETECH-266 Engineering Graphics Surface Modeling & Rendering

ETECH-266 Engineering Graphics Surface Modeling & Rendering

(3 cr.)

Repeatable for Credit: No

Development of three-dimensional surface models and rendered images. Organic surface modeling to create models with complex curved surfaces. Rendered images to communicate model concepts.

Prerequisite: take ETECH 210 or ETECH 256

ETECH-299 Independent Study

ETECH-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ETECH-303 Computer Aided Manufacturing

ETECH-303 Computer Aided Manufacturing

(3 cr.)

Repeatable for Credit: No

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation.

Prerequisites: take ETECH-252 and ETECH 210

ETECH-304 Mechanical Power Transmission

ETECH-304 Mechanical Power Transmission

(3 cr.)

Repeatable for Credit: No

Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems.

ETECH-310 Biomedical Instrumentation

ETECH-310 Biomedical Instrumentation

(3 cr.)

Repeatable for Credit: No

Review of basic electronics; measurements of physical, chemical, biological, and physiological variables; safety, noise, isolation, grounding, and shielding in biomedical instrumentation; circulatory, nervous, respiratory systems and related instrumentation; introduction to clinical lab systems; introduction to medical imaging systems.

Prerequisite: take ET-204

ETECH-341 Injection Molding Technology

ETECH-341 Injection Molding Technology

(3 cr.)

Repeatable for Credit: No

Injection molding process parameters, part and tooling design, materials selection, quoting, rapid prototyping, troubleshooting, and cycle time reduction efforts. Laboratory experiments for understanding various technologies associated with injection molding of quality parts.

Prerequisite: take either ETECH-250 or ETECH-251

ETECH-342 Thermoform and Blow-Molding Technology

ETECH-342 Thermoform and Blow-Molding Technology

(3 cr.)

Repeatable for Credit: No

Part/mold design, film/sheet forming techniques, methods of heating, sheet stretching and cooling, draw ratio calculations, materials selection, part thinning, and other aspects of thermoforming. Laboratory experiments for understanding various technologies associated with thermoforming and blow molding of quality parts, including tooling options, failure analysis, and product design.

Prerequisite: take either ETECH-250 or ETECH-251

ETECH-343 Extrusion Technology

ETECH-343 Extrusion Technology

(3 cr.)

Repeatable for Credit: No

Extrusion and the various processes associated with extrusion; profile, flat film, blown film and die design. Laboratory experiments for understanding various technologies associated with extrusion of quality parts, including tooling options, failure analysis, and product design.

Prerequisite: take either ETECH-250 or ETECH-251

ETECH-345 Design and Simulation of Manufacturing Systems

ETECH-345 Design and Simulation of Manufacturing Systems

(3 cr.)

Repeatable for Credit: No

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical reports summarizing projects. Recommended: statistical knowledge.

Prerequisites: take STAT 130, STAT 320 or STAT-330

ETECH-349 Cooperative Education Experience

ETECH-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ETECH-370 Global Engineering

ETECH-370 Global Engineering

(3 cr.)

Global Perspective

Repeatable for Credit: No

Understanding the global aspects of engineering design. Identification of international product, facility, and engineering system design standards. National culture and business norms for global engineering professionals. Evaluate a product or process design using international standards.

Prerequisite: take ETECH 100

ETECH-371 Mechatronics

ETECH-371 Mechatronics

(3 cr.)

Repeatable for Credit: No

Synergetic application of mechanical, electrical, and computer engineering as well as math and physics to create sophisticated electromechanical systems. Development of mechatronic systems to find an optimal balance between the mechanical structure, sensor and actuator implementation, automatic digital information processing, and overall control.

Prerequisite: take ET 204

ETECH-399 Independent Study

ETECH-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ETECH-415 Robotic System Integration

ETECH-415 Robotic System Integration

(3 cr.)

Repeatable for Credit: No

Integration and the control of industrial robotic systems, including teach pendant, programming, machine vision, and tooling design.

Prerequisite: take ENGR 363 or ET 341

ETECH-420 Engineering Graphics Applications

ETECH-420 Engineering Graphics Applications

(3 cr.)

Repeatable for Credit: No

Applications of contemporary software and hardware used to produce solutions for mechanical engineering design. Design to requirements, parametric three dimensional modeling, additive manufacturing, and Geometric Dimensions and Tolerances.

Introduction to advanced tools used for design optimization and efficiency.

Prerequisite: Take ETECH-210

ETECH-449 Cooperative Education Experience

ETECH-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ETECH-460 Advanced Manufacturing with 3D Printing

ETECH-460 Advanced Manufacturing with 3D Printing

(3 cr.)

Repeatable for Credit: No

Overview of various advanced manufacturing technologies, applications, materials used in 3D printing, design of parts, assemblies, and processes for 3D printing. Laboratory aspect with emphasis on design, artifact characterization and improvement of 3D print manufacturing parameters.

Prerequisites: ETECH 210 or ETECH 256 or instructor consent

ETECH-497 Field Experience

ETECH-497 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

HT-231 Introduction to Gastronomy

HT-231 Introduction to Gastronomy

(3 cr.)

Repeatable for Credit: No

Multi-disciplinary issues in food. The intersection of culinary history, menu research and development, food identity, sensory properties of food and physiological perceptions of flavor, and the cultural/societal aspects of cuisine.

English (also see LIT)

ENGL-80 Reading, Writing, and Grammar

ENGL-80 Reading, Writing, and Grammar

(6 cr.)

Repeatable for Credit: No

Basic reading, writing and grammar skills in English. Credits earned will not count toward graduation. (ENGL-80 is the same as ESLI 51A and ESLI 51B .)

ENGL-90 Writing Workshop

ENGL-90 Writing Workshop

(3 cr.)

Repeatable for Credit: No

Developmental course for students who scored below 360 on the English Placement Test. Improve composing literacies and learn about necessary conventions to create texts for a variety of audiences and purposes. Students must earn a grade of "C" or higher in ENGL-090 to demonstrate the skills needed to succeed in Composition 1 (ENGL-101). Non-credit bearing course.

Prerequisites: A score of 360 or below on the English Placement Test

ENGL-101 Composition 1

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-102 Composition 2

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-111 Honors Composition 1

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-113 Honors Composition 2: Honors Seminar

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

ENGL-121 Introduction to Professional Communication

ENGL-121 Introduction to Professional Communication

(3 cr.)

Repeatable for Credit: No

Trends, opportunities, and technologies shaping the field of professional communication. Career paths and specializations as well as ethical responsibilities.

Prerequisite: Professional Communication & Emerging Media majors only

ENGL-125 Professional Writing Elements of Style

ENGL-125 Professional Writing Elements of Style

(3 cr.)

Repeatable for Credit: No

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisite: take either ENGL 101 or ENGL 111

ENGL-149 Cooperative Education Experience

ENGL-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-207 Writing for the Media

ENGL-207 Writing for the Media

(3 cr.)

Repeatable for Credit: No

Theory and practice of writing for the media.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-210 Journalism Practicum

ENGL-210 Journalism Practicum

(1 cr.)

Repeatable for Credit: Yes

Work on regularly published newspaper and submit articles for evaluation and publication.

Department Consent

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-215 Foundations of Technical Communication

ENGL-215 Foundations of Technical Communication

(3 cr.)

Repeatable for Credit: No

Overview of major writing and documentation forms and conventions used in technical communication, including document design strategies, technical reports, and other professional texts.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-218 Mass Communication: Effects of the Technology on Society

ENGL-218 Mass Communication: Effects of the Technology on Society

(3 cr.)

Repeatable for Credit: No

The ideological and social implications of mass communication technology.

Prerequisite: take either ENGL-101 or ENGL-111

ENGL-225 Editing Processes and Practices

ENGL-225 Editing Processes and Practices

(3 cr.)

Repeatable for Credit: No

Comprehensive editing, copy editing, proofreading, and style selection; review of Standard Written English grammar and usage.

Prerequisites: take ENGL-102 or ENGL-112 or ENGL-113; and take ENGL-125

ENGL-245 Creative Writing

ENGL-245 Creative Writing

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Introduction to creative writing with an ethics component in four genres: Poetry, fiction, drama, and creative nonfiction.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-246 Informational Writing

ENGL-246 Informational Writing

(3 cr.)

Repeatable for Credit: No

Introduction to creative writing with an ethics component in four genres: Poetry, fiction, drama, and creative nonfiction.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-247 Critical Writing

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-249 Cooperative Education Experience

ENGL-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-299 Independent Study

ENGL-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ENGL-312 Transnational Professional Communication

ENGL-312 Transnational Professional Communication

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the global aspects of professional communication, including translation and cross-cultural visual communication. Apply cultural models in order to understand and address the needs of users and colleagues from different cultural and linguistic backgrounds.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-317 Topics in Journalism

ENGL-317 Topics in Journalism

(1-3 cr.)

Repeatable for Credit: No

Intensive study of and practice in topics in journalism.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-320 Professional and Technical Communication

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-330 Feature Writing

ENGL-330 Feature Writing

(3 cr.)

Repeatable for Credit: No

Plan, research and create feature articles for newspapers, magazines and online publications; develop research tools and writing skills; observe ethical and legal considerations in writing.

Prerequisite: take ENGL-207

ENGL-335 Introduction to Digital Humanities

ENGL-335 Introduction to Digital Humanities

(3 cr.)

Repeatable for Credit: No

Explores the dynamic interaction between digital technologies and the humanities (art, literature, film, history, media, pop culture).

ENGL-340 The Structure of English

ENGL-340 The Structure of English

(3 cr.)

Repeatable for Credit: No

New analytic and descriptive methods applied to modern English.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-342 Creative Writing II

ENGL-342 Creative Writing II

(3 cr.)

Repeatable for Credit: No

Advanced practice in creative writing that builds on skills taught in ENGL-245 Creative Writing, focusing on genre specific texts.

Prerequisite: take ENGL-245

ENGL-345 Usability Design and Testing

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance.

ENGL-349 Cooperative Education Experience

ENGL-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-350 Digital Storytelling

ENGL-350 Digital Storytelling

(3 cr.)

Repeatable for Credit: No

Create and critique visual and digital stories and the deployment of digital and visual media tools to tell a variety of stories from diverse social and cultural contexts.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-370 Developing Health Messages

ENGL-370 Developing Health Messages

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the creation of effective health messages. Providing an understanding of how to recognize the diverse needs of health consumers with a focus on addressing health literacy issues, create health messaging tools and write for both specialized and general health audiences.

Instructor's Consent Required

ENGL-371 Rhetoric and Style: Strategies of Argumentation

ENGL-371 Rhetoric and Style: Strategies of Argumentation

(3 cr.)

Repeatable for Credit: No

Examines classical rhetoric to identify enduring elements and concerns as well as critical tensions and conflicts. Students will obtain the vocabulary and conceptual understanding of the rhetorical tradition with attention to development both oral and written arguments.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-385 Document Design

ENGL-385 Document Design

(3 cr.)

Repeatable for Credit: No

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles.

ENGL-388 Writing for the Internet

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

ENGL-396 Expository Writing (Travel Writing in Scotland)

ENGL-396 Expository Writing (Travel Writing in Scotland)

(3 cr.)

Global Perspective

Repeatable for Credit: No

Forms, strategies and styles of expository writing. Emphasis on travel writing in Scotland, appropriate style and mechanics for presenting travel writing.

ENGL-396 Travel Writing

ENGL-396 Travel Writing

(3 cr.)

Repeatable for Credit: No

Overview of major subgenres of travel writing. Practice transforming personal travel experience and place-based research into a variety of compelling texts.

ENGL-399 Independent Study

ENGL-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ENGL-407 Seminar in Applied Journalism

ENGL-407 Seminar in Applied Journalism

(3 cr.)

Repeatable for Credit: No

Investigation into journalistic practices in particular disciplines, industries, and trades. Students will research, synthesize, and apply journalistic practices to their chosen field.

Prerequisite: take ENGL-207

ENGL-410 Scientific Communication

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-418 Convergent Communication

ENGL-418 Convergent Communication

(3 cr.)

Repeatable for Credit: No

Defining and analyzing convergent medial practices in professional communication disciplines, industries and trades; exploring how convergence of print, video/audio and online media has influenced professional writing.

Prerequisite: take ENGL-218

ENGL-430 Writing for Content Management

ENGL-430 Writing for Content Management

(3 cr.)

Repeatable for Credit: No

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-435 Writing Technical Manuals

ENGL-435 Writing Technical Manuals

(3 cr.)

Repeatable for Credit: No

Production of a technical manual--planning procedure, collecting information, analyzing audience, writing and field testing.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-437 Technical Writing Practicum

ENGL-437 Technical Writing Practicum

(1-3 cr.)

Repeatable for Credit: Yes

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document.

Department Consent

ENGL-449 Cooperative Education Experience

ENGL-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-470 Special Topics in Health Communication

ENGL-470 Special Topics in Health Communication

(3 cr.)

Repeatable for Credit: No

In-depth study of special topics in the field of health communication.

ENGL-471 Professional Communication Capstone

ENGL-471 Professional Communication Capstone

(3 cr.)

Repeatable for Credit: No

Preparing to enter the job market in a professional communication field, both as a full-time employee and as a freelancer or consultant. Practical issues such as networking, self-employment, copyright and portfolio development. Production of a significant client-based capstone project.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-475 Applied Health Communication Capstone

ENGL-475 Applied Health Communication Capstone

(3 cr.)

Repeatable for Credit: No

Completion of an original research or field experience project for business or industry. Results in either a deliverable for a client with a project report or a research paper.

Instructor's Consent Required

Completion of an original research or field experience project for business or industry. Results in either a deliverable for a client with a project report or a research paper.

ENGL-480 Seminar in Digital Humanities

ENGL-480 Seminar in Digital Humanities

(3 cr.)

Repeatable for Credit: No

Research into and discussion of current and emerging issues in the digital humanities. Subject matter covered will vary to reflect the state of current research.

Prerequisite: Take ENGL-335

ENGL-495 Digital Humanities Capstone

ENGL-495 Digital Humanities Capstone

(3 cr.)

Repeatable for Credit: Yes

Development of student-initiated research project in the digital humanities over two semesters. Results in thesis in medium appropriate to topic.

Prerequisite: Take ENGL-335

ENGL-499 Independent Study

ENGL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

English as a Second Language Institute

ESLI-10A Beginning ESL Listening and Speaking Skills I

ESLI-10A Beginning ESL Listening and Speaking Skills I

(3 cr.)

Repeatable for Credit: No

Developing basic listening and speaking skills for English as a Second Language learners. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-10B Beginning ESL Listening and Speaking Skills II

ESLI-10B Beginning ESL Listening and Speaking Skills II

(3 cr.)

Repeatable for Credit: No

Further developing and reinforcing basic listening and speaking skills for English as a Second Language learners. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-11A Beginning ESL Reading, Writing, and Grammar Skills I

ESLI-11A Beginning ESL Reading, Writing, and Grammar Skills I

(3 cr.)

Repeatable for Credit: No

Developing basic reading and writing skills for English as a Second Language learners. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-11B Beginning ESL Reading, Writing and Grammar Skills II

ESLI-11B Beginning ESL Reading, Writing and Grammar Skills II

(3 cr.)

Repeatable for Credit: No

Further developing and reinforcing basic reading and writing skills for English as a Second Language learners. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-12A Fluency Development I

ESLI-12A Fluency Development I

(3 cr.)

Repeatable for Credit: No

Developing fluency in listening and reading comprehension of authentic English materials, and in production of oral fluency, through a variety of realistic communicative tasks.

ESLI-12B Fluency Development II

ESLI-12B Fluency Development II

(3 cr.)

Repeatable for Credit: No

Further developing fluency in listening and reading comprehension of authentic English materials, and in production of oral fluency, through a variety of realistic communicative tasks.

ESLI-13A Pronunciation, Phonics and Reading Development I

ESLI-13A Pronunciation, Phonics and Reading Development I

(1.5 cr.)

Repeatable for Credit: No

Developing pronunciation and reading skill through the study of phonics, the sounds of English, and extensive reading assignments. Course includes one hour of mandatory lab section.

Department Consent

ESLI-13B Pronunciation, Phonics and Reading Development II

ESLI-13B Pronunciation, Phonics and Reading Development II

(1.5 cr.)

Repeatable for Credit: No

Further developing pronunciation and reading skill through the study of phonics, the sounds of English, and extensive reading assignments. Course includes one hour of mandatory lab section.

Department Consent

ESLI-20A High Beginning Listening and Speaking Skills I

ESLI-20A High Beginning Listening and Speaking Skills I

(1-3 cr.)

Repeatable for Credit: No

Developing listening and speaking skills for high beginning English language learners. Course includes two hours of mandatory lab/discussion sections.

Department Consent

ESLI-20B High Beginning Listening and Speaking Skills II

ESLI-20B High Beginning Listening and Speaking Skills II

(1-3 cr.)

Repeatable for Credit: No

Further developing listening and speaking skills for high beginning English language learners. Course includes two hours of mandatory lab/discussion sections.

Department Consent

ESLI-21A High Beginning ESL Reading, Writing and Grammar Skills I

ESLI-21A High Beginning ESL Reading, Writing and Grammar Skills I

(1-3 cr.)

Repeatable for Credit: No

Developing reading and writing skills for high beginning English language learners. Course includes two hours of mandatory lab/discussion sections.

Department Consent

ESLI-21B High Beginning Reading, Writing and Grammar Skills II

ESLI-21B High Beginning Reading, Writing and Grammar Skills II

(3 cr.)

Repeatable for Credit: No

Further developing reading and writing skills for high beginning English language learners. Course includes two hours of mandatory lab/discussion sections.

Department Consent

ESLI-22A Intensive Listening and Vocabulary Development I

ESLI-22A Intensive Listening and Vocabulary Development I

(1.5 cr.)

Repeatable for Credit: No

Developing listening skill and vocabulary through meaning-focused listening activities with authentic English materials. Course includes one hour of mandatory lab section.

Department Consent

ESLI-22B Intensive Listening and Vocabulary Development II

ESLI-22B Intensive Listening and Vocabulary Development II

(1.5 cr.)

Repeatable for Credit: No

Further developing listening skill and vocabulary through meaning focused listening activities with authentic English materials. Course includes one hour of mandatory lab section.

Department Consent

ESLI-30A Low Intermediate Listening and Speaking Skills I

ESLI-30A Low Intermediate Listening and Speaking Skills I

(1-3 cr.)

Repeatable for Credit: No

Developing basic listening and speaking skills for low intermediate English language learners. Course includes two hours of mandatory lab/discussion sections.

Instructor's Consent Required

ESLI-30B Low Intermediate Listening and Speaking Skills II

ESLI-30B Low Intermediate Listening and Speaking Skills II

(1-3 cr.)

Repeatable for Credit: No

Further developing basic listening and speaking skills for low intermediate English language learners. Course includes two hours of mandatory lab/discussion sections.

Department Consent

ESLI-31A Low Intermediate ESL Reading, Writing and Grammar Skills I

ESLI-31A Low Intermediate ESL Reading, Writing and Grammar Skills I

(1-3 cr.)

Repeatable for Credit: No

Developing academic reading, writing and grammar skills for low intermediate English language learners. Course includes two hours of mandatory lab/discussion sections.

Department Consent

ESLI-31B Low Intermediate ESL Reading, Writing and Grammar Skills II

ESLI-31B Low Intermediate ESL Reading, Writing and Grammar Skills II

(1-3 cr.)

Repeatable for Credit: No

Further developing academic reading, writing and grammar skills for low intermediate English language learners. Course includes two

hours of mandatory lab/discussion sections.
Department Consent

ESLI-32A Fluency Development I

ESLI-32A Fluency Development I

(1.5 cr.)

Repeatable for Credit: No

Developing fluency in listening and reading comprehension of authentic English materials, and in production of oral English, through a variety of realistic communicative tasks. Course includes one hour of mandatory lab section.

Department Consent

ESLI-32B Fluency Development II

ESLI-32B Fluency Development II

(1.5 cr.)

Repeatable for Credit: No

Further developing fluency in listening and reading comprehension of authentic English materials, and in production of oral English, through a variety of realistic communicative tasks. Course includes one hour of mandatory lab section.

Department Consent

ESLI-40A High Intermediate ESL Listening and Speaking Skills I

ESLI-40A High Intermediate ESL Listening and Speaking Skills I

(1-3 cr.)

Repeatable for Credit: No

Developing academic listening and speaking skills to communicate effectively in English in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-40B High Intermediate ESL Listening and Speaking Skills II

ESLI-40B High Intermediate ESL Listening and Speaking Skills II

(1-3 cr.)

Repeatable for Credit: No

Further developing and reinforcing academic listening and speaking skills to communicate effectively in English in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-41A High Intermediate ESL Reading, Writing and Grammar Skills I

ESLI-41A High Intermediate ESL Reading, Writing and

Grammar Skills I

(1-3 cr.)

Repeatable for Credit: No

Developing academic reading, writing and grammar skills for succeeding in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-41B High Intermediate ESL Reading, Writing and Grammar Skills II

ESLI-41B High Intermediate ESL Reading, Writing and Grammar Skills II

(3 cr.)

Repeatable for Credit: No

Further developing and reinforcing academic reading, writing and grammar skills for succeeding in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-42A High Intermediate Current Events

ESLI-42A High Intermediate Current Events

(3-6 cr.)

Repeatable for Credit: No

Applying reading, writing, listening, speaking and critical thinking skills learned in ESLI core courses to the study of current events.

ESLI-42B High Intermediate Current Events II

ESLI-42B High Intermediate Current Events II

(3-6 cr.)

Repeatable for Credit: No

Further applying reading, writing, listening, speaking, and critical thinking skills learned in ESLI core courses to the study of current events.

ESLI-43A Intensive Writing and Editing Skill Development I

ESLI-43A Intensive Writing and Editing Skill Development I

(1.5 cr.)

Repeatable for Credit: No

Developing writing skills at the upper levels through editing and focused rewriting. Course includes one hour of mandatory lab section. Department Consent

ESLI-43B Intensive Writing and Editing Skill Development II

ESLI-43B Intensive Writing and Editing Skill Development II

(1.5 cr.)

Repeatable for Credit: No

Further developing writing skills at the upper levels through editing and focused rewriting. Course includes one hour of mandatory lab section.

Department Consent

ESLI-50A Low Advanced ESL Listening and Speaking Skills I

ESLI-50A Low Advanced ESL Listening and Speaking Skills I

(1-3 cr.)

Repeatable for Credit: No

Developing more of the necessary academic listening and speaking skills for communicating effectively in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-50B Low Advanced ESL Listening and Speaking Skills II

ESLI-50B Low Advanced ESL Listening and Speaking Skills II

(1-3 cr.)

Repeatable for Credit: No

Further developing and reinforcing more of the necessary academic listening and speaking skills for communicating effectively in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-51A Low Advanced ESL Reading, Writing and Grammar Skills I

ESLI-51A Low Advanced ESL Reading, Writing and Grammar Skills I

(1-3 cr.)

Repeatable for Credit: No

Continuing to develop academic reading, writing and grammar skills necessary for success in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-51B Low Advanced ESL Reading, Writing and Grammar Skills II

ESLI-51B Low Advanced ESL Reading, Writing and Grammar Skills II

(1-3 cr.)

Repeatable for Credit: No

Continuing to further develop and reinforce academic reading, writing and grammar skills necessary for success in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-52A Writing, Revising and Editing Workshop I

ESLI-52A Writing, Revising and Editing Workshop I

(1.5 cr.)

Repeatable for Credit: No

Building the skills necessary to be a valuable member of a peer group, identifying the characteristics of good academic writing, and applying the criteria for good academic writing to your own and peer group members' writing. Includes one hour of mandatory lab/discussion.

Department Consent

ESLI-52B Writing, Revising and Editing Workshop II

ESLI-52B Writing, Revising and Editing Workshop II

(1.5 cr.)

Repeatable for Credit: No

Developing skills necessary to be a valuable member of a peer group, identifying the characteristics of good academic writing, and applying the criteria for good academic writing to your own and peer group members' writing. Includes one hour of mandatory lab/discussion.

Department Consent

ESLI-56A Advanced Project-Based Course I

ESLI-56A Advanced Project-Based Course I

(1.5 cr.)

Repeatable for Credit: No

Applying reading, writing, listening, speaking, and critical thinking skills learned in ESLI core courses and working collaboratively to solve a problem or develop a product that will be shared with the larger Stout and Menomonie communities. Course includes one hour of mandatory lab/discussion.

Department Consent

ESLI-56B Advanced Project-Based Course II

ESLI-56B Advanced Project-Based Course II

(1.5 cr.)

Repeatable for Credit: No

Further applying reading, writing, listening, speaking, and critical thinking skills learned in ESLI core courses and working collaboratively to solve a problem or develop a product that will be shared with the larger Stout and Menomonie communities. Course includes one hour of mandatory lab/discussion.

Department Consent

ESLI-60A High Advanced ESL Listening and Speaking Skills I

ESLI-60A High Advanced ESL Listening and Speaking Skills I

(1-3 cr.)

Repeatable for Credit: Yes

Refining and sharpening necessary academic listening and speaking skills for communicating effectively in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-60B High Advanced Listening and Speaking Skills II

ESLI-60B High Advanced Listening and Speaking Skills II

(1-3 cr.)

Repeatable for Credit: Yes

Reinforcing and further refining and sharpening necessary academic listening and speaking skills for communicating effectively in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-61A High Advanced ESL Reading, Writing and Grammar Skills I

ESLI-61A High Advanced ESL Reading, Writing and Grammar Skills I

(1-3 cr.)

Repeatable for Credit: Yes

Refining and sharpening academic reading, writing and grammar skills for success in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-61B High Advanced ESL Reading, Writing and Grammar Skills II

ESLI-61B High Advanced ESL Reading, Writing and Grammar Skills II

(1-3 cr.)

Repeatable for Credit: Yes

Reinforcing and further refining and sharpening academic reading, writing and grammar skills for success in an American university classroom. Course includes 2 hours of mandatory lab/discussion.

Instructor's Consent Required

ESLI-62A University Success I

ESLI-62A University Success I

(1.5 cr.)

Repeatable for Credit: No

Preparation for the cultural and academic expectations of the American university classroom. Includes one hour of mandatory lab/discussion.

Instructor's Consent Required

ESLI-62B University Success II

ESLI-62B University Success II

(1.5 cr.)

Repeatable for Credit: No

Advanced preparation for the cultural and academic expectations of the American university classroom. Includes one hour of mandatory lab/discussion.

Instructor's Consent Required

ESLI-63 Exploring United States Cultures

ESLI-63 Exploring United States Cultures

(1-3 cr.)

Repeatable for Credit: Repeatable up to 3-9 credits; up to 3 times

Cultivating awareness of United States cultures, with an emphasis on investigation of Wisconsin and the Midwestern United States. Building discussion and critical thinking skills through topic-based lessons, guest speakers, conversation partner interactions, local site visits, and cultural activities.

Prerequisite: Enrolled in the English as a Second Language Institute

ESLI-64 Oral Communication Workshop

ESLI-64 Oral Communication Workshop

(1-2 cr.)

Repeatable for Credit: Repeatable for up to 3-6 credits; up to 3 times

Developing fluency in oral communication for non-native speakers of English.

Prerequisite(s): Enrolled in the English as a Second Language Institute

Environmental Science

ENSC-101 Environmental Science Profession

ENSC-101 Environmental Science Profession

(1 cr.)

Repeatable for Credit: No

A survey of the Environmental Science program and academic support services to advance students' career goals. Research, leadership, internship, service learning, and other important career enhancing experiences will be explored. Participation in inclusive excellence activities will expose students to issues that are relevant in an increasingly culturally diverse work environment.

ENSC-349 Cooperative Education Experience

ENSC-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENSC-398 Field Experience in Environmental Science

ENSC-398 Field Experience in Environmental Science

(1-6 cr.)

Repeatable for Credit: No

A field experience in environmental science in an approved position consisting of a minimum of 320 hours of work experience.

Student learning objectives, employer evaluations, student evaluation, interim reports, and a final written report and oral presentation are required.

Department Consent

ENSC-425 Environmental Science and Sustainability Capstone

ENSC-425 Environmental Science and Sustainability Capstone

(3 cr.)

Repeatable for Credit: No

Sustainable solutions to real-world problems will be developed through partnerships with private, public, and/or industrial sectors of society. Projects will be taken from the ideation phase to the completion of the required final documentation. The design of a triple-bottom-line solution will be emphasized.

Prerequisite: Must be Senior level or higher

ENSC-449 Cooperative Education Experience

ENSC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Family and Consumer Sciences Education

FCSE-101 Introduction to Family and Consumer Sciences Education

FCSE-101 Introduction to Family and Consumer

Sciences Education

(2 cr.)

Repeatable for Credit: No

Contribution of Family and Consumer Sciences to development of individuals and families; responsibilities of a Family and Consumer Sciences professional.

FCSE-149 Cooperative Education Experience

FCSE-149 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FCSE-201 Teaching Methods in Family and Consumer Sciences Education

FCSE-201 Teaching Methods in Family and Consumer Sciences Education

2-(3 cr.)

Repeatable for Credit: No

Presentation strategies appropriate in the field family and consumer sciences education. Background check required.

FCSE-249 Cooperative Education Experience

FCSE-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FCSE-299 Independent Study

FCSE-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

FCSE-300 Externship: Family and Consumer Sciences Community Education

FCSE-300 Externship: Family and Consumer Sciences Community Education

(4-8 cr.)

Repeatable for Credit: No

Practicum in one or more of the following family and consumer sciences education programs: extension services, elementary education, post- secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit.

Department Consent

FCSE-303 Family and Consumer Sciences Education in the Middle and Elementary Schools

FCSE-303 Family and Consumer Sciences Education in the Middle and Elementary Schools

(3 cr.)

Repeatable for Credit: No

Develop techniques, materials and curriculum concepts in family and consumer sciences education with application of human growth and development principles for teaching in middle and elementary school.

FCSE-330 Teaching Apparel Construction in Family & Consumer Classroom

FCSE-330 Teaching Apparel Construction in Family & Consumer Classroom

(3 cr.)

Repeatable for Credit: No

Study of apparel construction, including equipment, techniques, fabric selection, and fit.

FCSE-335 Teaching Textiles in Family & Consumer Sciences Classrooms

FCSE-335 Teaching Textiles in Family & Consumer Sciences Classrooms

(3 cr.)

Repeatable for Credit: No

Study of basic textiles with emphasis on fabric characteristics, uses and care.

FCSE-341 Prestudent Teaching in FCSE Classrooms

FCSE-341 Prestudent Teaching in FCSE Classrooms

(1 cr.)

Repeatable for Credit: Yes

Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through family and consumer sciences education substantive areas.

Prerequisite: Benchmark I Completed

FCSE-349 Cooperative Education Experience

FCSE-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FCSE-355 Seminar: Emerging Practices and Classroom Management

FCSE-355 Seminar: Emerging Practices and Classroom Management

(3 cr.)

Repeatable for Credit: No

Issues and trends in marketing, business and family and consumer sciences education. Experiences necessary for success during student teaching and upon initial career entry. Focus on classroom management and discipline, lab management and safety, facilities design, academic standards, curriculum issues, ethical challenges and politics in the workplace, preparing for a professional role in education, innovative instructional technologies, promising practices and other education reform strategies.

FCSE-380 Consumer Economics

FCSE-380 Consumer Economics

(3 cr.)

Repeatable for Credit: No

Personal and family consumer economics for family and consumer education programs; management of human and non-human resources in achieving personal, family and community goals.

Prerequisites: take either ECON-201 or ECON-210

FCSE-385 Family Housing

FCSE-385 Family Housing

(3 cr.)

Repeatable for Credit: No

Individual/family's housing needs and resources as a basis for family and consumer education programs. The impact of historical, environmental, social, cultural, and technological, aesthetic, and design influences.

FCSE-390 Family and Consumer Sciences Education Curriculum

FCSE-390 Family and Consumer Sciences Education Curriculum

(2 cr.)

Repeatable for Credit: No

Curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates CTE program area in Family and Consumer Sciences Education.

Prerequisite: Benchmark I completion

FCSE-397 Field Experience in Family and Consumer Sciences Education

FCSE-397 Field Experience in Family and Consumer Sciences Education

(2 cr.)

Repeatable for Credit: No

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level.

Department Consent

FCSE-448 Student Teaching-Family and Consumer Sciences Education

FCSE-448 Student Teaching-Family and Consumer Sciences Education

(8-16 cr.)

Repeatable for Credit: No

Student teaching practicum in K-12 settings in family & consumer sciences education/family life.

Department Consent

Prerequisites: Must have minimum GPA 2.75; take FCSE-301 and FCSE-360

FCSE-449 Cooperative Education Experience

FCSE-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FCSE-451 Family Life Education Programs

FCSE-451 Family Life Education Programs

(2 cr.)

Repeatable for Credit: No

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level.

FCSE-488 Internship Teaching

FCSE-488 Internship Teaching

(8-16 cr.)

Repeatable for Credit: No

Alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one semester.

Department Consent

Prerequisite: take FCSE-301

FCSE-497 Field Experience in Family and Consumer Sciences Education

FCSE-497 Field Experience in Family and Consumer Sciences Education

(2 cr.)

Repeatable for Credit: No

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level.

Department Consent

FCSE-499 Independent Study

FCSE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Food and Nutrition

FN-101 Dietetics as a Profession

FN-101 Dietetics as a Profession

(1 cr.)

Repeatable for Credit: No

Survey of types of dietetic and foodservice administration programs in the United States; role and function of staff; professional literature.

FN-102 Nutrition for Healthy Living

FN-102 Nutrition for Healthy Living

(2 cr.)

Repeatable for Credit: No

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition- exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well- being.

FN-105 Food Service Sanitation

FN-105 Food Service Sanitation

(1 cr.)

Repeatable for Credit: No

Preparation for the ServSafe Food Protection Manager Certification Examination. Safe food handling practices.

FN-110 Food Science as a Profession

FN-110 Food Science as a Profession

(2 cr.)

Repeatable for Credit: No

Introduction to Food Science and Technology with emphasis on current issues, competencies, career opportunities, and professional responsibilities; coursework and career planning; leadership and success skills; field visits and case studies in the food and agricultural industry.

FN-115 Principles of the Food Industry

FN-115 Principles of the Food Industry

(2 cr.)

Repeatable for Credit: No

Analysis of food processes, procedures and regulations. Application to protocols of the food industry. Appreciation of safe and healthy food service products.

FN-123 Science of Food

FN-123 Science of Food

(2 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Sciences

Repeatable for Credit: No

Integrated scientific concepts in food products and ingredients; food composition and physical properties; methods, processes, and unit operations in food manufacturing.

FN-124 Foods

FN-124 Foods

(4 cr.)

Repeatable for Credit: No

Scientific principles and application in the selection, preparation and service of food.

FN-149 Cooperative Education Experience

FN-149 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FN-199 Independent Study

FN-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

FN-202 Food And Beverage Distribution Industry

FN-202 Food And Beverage Distribution Industry

(3 cr.)

Repeatable for Credit: No

An introductory course for students in the field of food and beverage merchandising and distribution. A study of history, evolution, classification, manufacture/production, packaging, distribution, and merchandising with an emphasis on trends and employment.

Resource persons from industry and field trips will be utilized.

FN-207 Medical Terminology

FN-207 Medical Terminology

(1 cr.)

Repeatable for Credit: No

Medical terminology for allied health occupations. Self-paced instruction utilizing a word-building system to learn word parts used to construct or analyze new terms. Emphasis on spelling, definition, usage and pronunciation.

FN-210 Issues and Ethics in Food and Nutrition

FN-210 Issues and Ethics in Food and Nutrition

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Apply ethical reasoning to analyze and solve contemporary issues in food and nutrition such as current recommendations, overweight and obesity, sustainability, and food insecurity.

FN-212 Nutrition

FN-212 Nutrition

(3 cr.)

Repeatable for Credit: No

Basic principles of nutrition applied to current issues in health maintenance.

Prerequisites: take BIO-234 and CHEM-115 or higher

FN-215 Art and Science of Food

FN-215 Art and Science of Food

(3 cr.)

Repeatable for Credit: No

Analysis and application of food principles applied to storage, preparation and service. Special emphasis on food safety and the art of food preparation.

Prerequisite: take HT 121

FN-225 Spec Topics in Food and Nutrition

FN-225 Spec Topics in Food and Nutrition

(1-2 cr.)

Repeatable for Credit: Yes

Study of special topics in food and nutrition.

FN-236 Nutrition for Young Children

FN-236 Nutrition for Young Children

(1-2 cr.)

Repeatable for Credit: No

Impact of nutrition on growth, development and health of young children. Assessment of nutritional status, changing needs and eating patterns, the link between nutrition, dietary practices, and behavior, and translating current nutrition information into effective nutrition education strategies for children.

Prerequisites: take FN-102

FN-240 Food Science

FN-240 Food Science

(4 cr.)

Repeatable for Credit: No

Understanding the Science of Food through physical, chemical, and microbiological changes affecting storage, processing and distribution of various food products.

Prerequisite: take CHEM-201

FN-244 Farm to Fork: Food Issues

FN-244 Farm to Fork: Food Issues

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Contemporary issues in agriculture, food production, and food processing; science, technology, and policy in the food system; critiques in agricultural sustainability; food consumption choice; food system changes and implications on individuals and society.

FN-249 Cooperative Education Experience

FN-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FN-260 Menu Planning and Design

FN-260 Menu Planning and Design

(2 cr.)

Repeatable for Credit: No

Principles of menu planning, design and production for commercial and institutional food establishments.

FN-299 Independent Study

FN-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

FN-310 Lifespan Nutrition

FN-310 Lifespan Nutrition

(3 cr.)

Repeatable for Credit: No

Nutrition concepts and concerns associated with each lifespan stage; integration of social, psychological, cultural, economic, and legislative factors to develop issue-centered approaches to meet nutrition needs.

Prerequisites: take FN-102; take one Biology course

FN-312 Nutritional Assessment

FN-312 Nutritional Assessment

(2 cr.)

Repeatable for Credit: No

Fundamental principles and techniques of nutritional assessment, application of nutritional assessment skills, and interpretation of assessment data.

Prerequisite: take FN-212

FN-320 Advanced Nutrition

FN-320 Advanced Nutrition

(3 cr.)

Repeatable for Credit: No

Concepts of the metabolic and physiological functions of nutrients at the molecular, cellular, tissue, organ and system level. Emphasis on coordinated control of nutrient metabolism.

Prerequisite: take FN-212 and CHEM-311

FN-325 Special Topics in Food and Nutrition

FN-325 Special Topics in Food and Nutrition

(1-3 cr.)

Repeatable for Credit: Yes

Study of special topics in food and nutrition.

Prerequisite: take either FN-124 or FN-215

FN-330 Institutional Menu Planning

FN-330 Institutional Menu Planning

(3 cr.)

Repeatable for Credit: No

Principles of cycle menu planning, design, and marketing for institutional food settings, which includes culinary skills, basic food preparation and modified menus to meet the special dietary needs of an individual or group.

Prerequisite: take FN-212

FN-349 Cooperative Education Experience

FN-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FN-350 Unit Operations in Food Processing

FN-350 Unit Operations in Food Processing

(3 cr.)

Repeatable for Credit: No

Principles, technology, and application of unit operations in food processing; laboratory and pilot-scale processing of food and agricultural commodities; quantitative measurements and analysis of unit operations.

Prerequisite: take FN-240

FN-355 Sports Nutrition

FN-355 Sports Nutrition

(3 cr.)

Repeatable for Credit: No

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

Prerequisite: take FN-212

FN-360 Nutrition Counseling: A Team Approach

FN-360 Nutrition Counseling: A Team Approach

(3 cr.)

Repeatable for Credit: No

Inter-disciplinary team approach to individual and group client centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention.

Prerequisite: take FN-312

FN-380 Community Nutrition

FN-380 Community Nutrition

(3 cr.)

Repeatable for Credit: No

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems.

Prerequisite: take FN-212

FN-396 Food Science Workshop

FN-396 Food Science Workshop

(2 cr.)

Repeatable for Credit: No

Designed to meet the science and family and consumer sciences standards in Wisconsin. Content presented will build capacity for food science and science teachers to create science-based learning experiences related to food.

Instructor's Consent Required

FN-396A Obesity and Eating Disorders

FN-396A Obesity and Eating Disorders

(3 cr.)

Repeatable for Credit: No

Examines the complex issues associated with obesity and eating disorders. Consideration of health and psycho-emotional effects on the individual as well as relevant social, economic, and public health implications. Exploration of the etiology of obesity and the spectrum of disordered eating as well as appropriate treatment approaches.

Prerequisites: take FN-102 or FN-212

FN-397 Field Experience

FN-397 Field Experience

(2 cr.)

Repeatable for Credit: No

FN-397C Field Experience (Seminar): Dietetics

FN-397C Field Experience (Seminar): Dietetics

(1-2 cr.)

Repeatable for Credit: No

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two-credit option.

Department Consent

FN-397E Field Experience: Dietetics

FN-397E Field Experience: Dietetics

(1 cr.)

Repeatable for Credit: No

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written

reports required for two-credit option.
Department Consent

FN-399 Independent Study

FN-399 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

FN-400 Food Quality

FN-400 Food Quality

(4 cr.)
Repeatable for Credit: No
Applications of qualitative and quantitative tools in conjunction with statistical methods to implement quality management in the food industry.
Prerequisites: Take FN-350, and take either STAT 130 or STAT-320

FN-402 Food Microbiology

FN-402 Food Microbiology

(3 cr.)
Repeatable for Credit: No
Application of microbiology concepts relevant to food products; analysis for food spoilage microorganisms and foodborne pathogens based on conventional methods; molecular detection techniques; intrinsic and extrinsic parameters for food preservation.
Prerequisite: take BIO-306

FN-406 Nutrition Education

FN-406 Nutrition Education

(3 cr.)
Repeatable for Credit: No
Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources.
Prerequisite: take FN-212

FN-408 Preprofessional Development in Dietetics and Nutrition

FN-408 Preprofessional Development in Dietetics and Nutrition

(1 cr.)

Repeatable for Credit: No

Provide a step by step, efficient and effective process toward completion of application for Supervised Practice Programs (Dietetic Internships), graduate school or employment.

FN-410 Food & Nutrition Policy Regulation & Law

FN-410 Food & Nutrition Policy Regulation & Law

(3 cr.)

Repeatable for Credit: No

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review.

FN-413 Maternal and Child Nutrition

FN-413 Maternal and Child Nutrition

(3 cr.)

Repeatable for Credit: No

Application of principles to maternal, infant, child and adolescent nutrition.

Prerequisites: take FN-212 & take either BIO-132 or BIO-234

FN-414 Catering

FN-414 Catering

(3 cr.)

Repeatable for Credit: No

Theory and application of operational and managerial principles for on/off-premise catering for special events. (Cannot be taken for credit by students who have previously taken HT-424.) A special course fee applies.

Prerequisite: FN-124 or FN-240

FN-415 Nutritional Issues in Gerontology

FN-415 Nutritional Issues in Gerontology

(3 cr.)

Repeatable for Credit: No

Theory and relationships of nutrition, longevity and aging. Food and nutrition legislation for the elderly--theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly.

Prerequisite: take FN-212

FN-417 Medical Nutritional Therapy I

FN-417 Medical Nutritional Therapy I

(3 cr.)

Repeatable for Credit: No

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporates principles of medical nutritional therapy in nutrition assessment, diet prescription, medications, care plans and documentation.

Prerequisites: take FN-312 and CHEM-311

FN-418 Medical Nutritional Therapy II

FN-418 Medical Nutritional Therapy II

(4 cr.)

Repeatable for Credit: No

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporation of the principles of nutrition assessment, diet prescription, medications, care plans, and documentation into the management of disease processes.

Prerequisites: take CHEM-311, FN-312 and FN-417

FN-420 Food Styling

FN-420 Food Styling

(1-3 cr.)

Repeatable for Credit: Yes

Food as media for artistic expression; effective use of color, form and texture.

Prerequisite: FN-124 or FN-240

FN-425 Food Chemistry

FN-425 Food Chemistry

(3 cr.)

Repeatable for Credit: No

Chemical structure and properties of food components, including water, carbohydrates, protein, lipids, other nutrients and food additives; chemical reactions of food components during processing, storage and utilization.

Prerequisite: take FN-240

FN-435 Food Analysis

FN-435 Food Analysis

(3 cr.)

Repeatable for Credit: No

Principles and methods in analysis of nutritive and bioactive components in food; nutrient and ingredient characterization; analytical methods in food quality and safety assurance; standard methods in the food quality control laboratory.

Prerequisite: take CHEM-315

FN-442 Basic Sensory Analysis

FN-442 Basic Sensory Analysis

(3 cr.)

Repeatable for Credit: No

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/ acceptance tests. Appropriate for all majors who produce products for/or merchandise to consumers.

Prerequisite: FN-124 or FN-240

FN-449 Cooperative Education Experience

FN-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FN-450 Food Engineering

FN-450 Food Engineering

(3 cr.)

Repeatable for Credit: No

Application of pertinent chemistry, physics and mathematics principles to food processing.

Prerequisites: take MATH-153, or MATH 156 , PHYS 211 and FN-350

FN-461 Multicultural Aspects of Food & Nutrition Patterns

FN-461 Multicultural Aspects of Food & Nutrition Patterns

(3 cr.)

Global Perspective

Repeatable for Credit: No

Dietary behavior, nutrition patterns, and health are influenced by many factors, including social, religious, geographical, economic, political and technological factors. The socio-cultural aspects of food, nutrition and health among regional, national and international cultures will be examined.

Prerequisite: FN 212

FN-465 Food Product Development

FN-465 Food Product Development

(3 cr.)

Repeatable for Credit: No

Food ingredient properties; integrated application of professional competencies for food product development.

Prerequisite: take FN-350

FN-470 Food Distribution Operations and Control

FN-470 Food Distribution Operations and Control

(3 cr.)

Repeatable for Credit: No

Current trends and management strategies in the distribution of food and beverages, from manufacturer to consumer.

FN-202 and BUMKG-330

FN-480 Research Critiques in Food Microbiology

FN-480 Research Critiques in Food Microbiology

(3 cr.)

Repeatable for Credit: No

Research evidence examining mechanistic concepts in microbial food spoilage, infectious disease and molecular epidemiology.

Methods of assessing safety risks and design of interventions to manage risks in food processing environments.

Prerequisites: Take BIO-306 or CHEM-311

FN-497C Field Experience: Food Systems and Technology

FN-497C Field Experience: Food Systems and Technology

(1 cr.)

Repeatable for Credit: No

Seminar: analysis, interpretation and synthesis of food systems and technology principles through a written paper and oral seminars following 320 hours of field work in an approved position. Integrates synergistic principles/activities from program courses and among concentrations.

Department Consent

FN-497E Field Experience: Food Systems and Technology

FN-497E Field Experience: Food Systems and Technology

(1 cr.)

Repeatable for Credit: No

Food systems and technology area field experience. Approved field position, 320 hours of work experience, and development of concept/outline for written analysis paper.

Department Consent

FN-499 Independent Study

FN-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

French

FREN-101 Elementary French I

FREN-101 Elementary French I

(4 cr.)

Communication Skills

Repeatable for Credit: No

Listening, pronunciation, reading, and writing. Basic vocabulary, polite phrases, questions and answers. Adjective agreement, present and some past-tense verbs. Cultural information about the French-speaking world.

FREN-102 Elementary French II

FREN-102 Elementary French II

(4 cr.)

Communication Skills

Repeatable for Credit: No

Second level of understanding, speaking, reading, and writing in French. Introduction to future, conditional, imperfect and subjunctive verbs. Direct and indirect object pronouns. Short spontaneous and directed conversations. topics in cultures of French-speaking people. One year H.S. French or FREN-101 required.

FREN-121 Practical French I

FREN-121 Practical French I

(2 cr.)

Repeatable for Credit: No

First quarter college French. Conversational phrases and vocabulary for practical situations. Basic present tense verb patterns. Intensive pronunciation drill. Not for students who have taken FREN-101.

Not for students who took FREN-101.

FREN-122 Practical French II

FREN-122 Practical French II

(2 cr.)

Communication Skills

Repeatable for Credit: No

Second quarter college French, conversational phrases and vocabulary, irregular and past tense verb patterns. Not appropriate for students who have completed FREN-101. One year of H.S. French or FREN-121 required.

Not for students who took FREN-101.

FREN-123 Practical French III

FREN-123 Practical French III

(2 cr.)

Communication Skills

Repeatable for Credit: No

Third quarter college French. Imperfect and reflexive verbs, direct and indirect object pronouns, commands, conversational vocabulary. Not for student who have complete FREN-102. One year H.S. French or FREN-101 required.

FREN-124 Practical French IV

FREN-124 Practical French IV

(2 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Fourth quarter college French. Future, conditional and subjunctive verbs. Introduction to relative pronouns. Conversational vocabulary. (Not for students who have completed FREN-102.)

Not for students who took FREN-102.

FREN-201 Intermediate French I

FREN-201 Intermediate French I

(4 cr.)

Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Vocabulary development through readings and discussion on French and Francophone civilization. History, art, music, short stories and poems, including contemporary culture. Taught in French. Two years H.S. French or FREN-102 required.

FREN-202 Intermediate French II

FREN-202 Intermediate French II

(4 cr.)

Communication Skills

Repeatable for Credit: No

Grammar review, contemporary vocabulary, free conversation in French. Three years H.S. French or FREN-201 required.

FREN-299 Independent Study

FREN-299 Independent Study

(1-3 cr.)

Global Perspective

Repeatable for Credit: Yes

Department Consent

FREN-499 Independent Study

FREN-499 Independent Study

(1-3 cr.)

Global Perspective

Repeatable for Credit: Yes

Department Consent

Game Design and Development

GDD-100 Introduction to Game Design

GDD-100 Introduction to Game Design

(4 cr.)

Repeatable for Credit: No

Principles of video and computer game design and development. Students design and develop games, analyze a popular game, and learn about various aspects of the game industry. Game design, story development, visual art production and programming.

GDD-200 Video Game Development

GDD-200 Video Game Development

(4 cr.)

Repeatable for Credit: No

The course introduces principles of video game development. Students design and develop a video game, implementing a development pipeline using visual art production, programming, and game development management techniques and tools.

Prerequisite(s): take GDD 100 and either CS 145 or DES 220

GDD-325 Two Dimensional Game Design and Development

GDD-325 Two Dimensional Game Design and Development

(4 cr.)

Repeatable for Credit: No

Design and develop two-dimensional games from concept to completion in teams. Production environment will be set up to reflect the approach used in the game development industry.

Prerequisites: take GDD 200 and either CS-244 or DES-220

GDD-349 Cooperative Education Experience

GDD-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

GDD-399 Independent Study

GDD-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

GDD-449 Cooperative Education Experience

GDD-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

GDD-450 Game Design and Development Capstone I

GDD-450 Game Design and Development Capstone I

(4 cr.)

Repeatable for Credit: No

Design and development of 3D games from concept to prototype in teams, modeling the approach used in the game development industry. The first of a two-semester sequence to be followed by GDD-451.

Prerequisites: Take GDD-325 and one of the following:

1) completion of both CS 326 and CS 358 ; or

2) completion of DES 350

GDD-450 Game Design and Development Capstone I

GDD-450 Game Design and Development Capstone I

(4 cr.)

Repeatable for Credit: No

Design and development of 3D games from concept to prototype in teams, modeling the approach used in the game development industry. The first of a two-semester sequence to be followed by GDD 451 .

Prerequisites: Take GDD 325 and one of the following:

1) completion of both CS 326 and CS 358 ; or

2) completion of DES 350

GDD-451 Game Design and Development Capstone II

GDD-451 Game Design and Development Capstone II

(4 cr.)

Repeatable for Credit: No

Design and development of 3D games from concept to prototype in teams, modeling the approach used in the game development industry. Second of two-semester sequence; to be preceded by GDD-450.

Prerequisite: take GDD-450

GDD-475 Game Design and Development Internship

GDD-475 Game Design and Development Internship

1-(3 cr.)

Repeatable for Credit: Yes

Off-campus work and study in approved position to gain experience in game development. Interns receive appointments with cooperating companies for summer or a semester.

Instructor's Consent Required

GDD-499 Independent Study

GDD-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Geography

GEOG-104 World Geography

GEOG-104 World Geography

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

An introduction to how the discipline of geography makes sense of the world, its diverse people, places, and regions. Emphasis is on the interaction between culture and landscape and how those interactions create unique places.

GEOG-199 Independent Study

GEOG-199 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

GEOG-249 Cooperative Education Experience

GEOG-249 Cooperative Education Experience

1-(8 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.
Department Consent

GEOG-251 Introduction to Geographic Information Systems

GEOG-251 Introduction to Geographic Information Systems

(4 cr.)
Repeatable for Credit: No
Experience, using state of the art GIS and GPS equipment and theoretical background explaining the many roles GIS technology has in displaying analyzing spatial problems. Major components include computer representation of geographic information, fundamentals of cartography, construction of GIS databases, spatial analysis, and application areas of GIS.

GEOG-290 Global Political Ecology

GEOG-290 Global Political Ecology

(3 cr.)
Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning
Repeatable for Credit: No
Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

GEOG-299 Independent Study

GEOG-299 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

GEOG-310 Food Justice

GEOG-310 Food Justice

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

Analysis of food "geographies" - how food travels from farm to table; the importance of power and justice in the production, distribution and consumption of food. Exploration of issues of food democracy, food justice, and food sovereignty. Special attention to racial and class-based inequities within the global food system.

GEOG-320 Introduction to Community Planning

GEOG-320 Introduction to Community Planning

(3 cr.)

Social Responsibility and Ethical Reasoning

Introduction to the principles of community planning and the methods used to shape community development. Topics include downtown revitalization, housing, historic preservation, economic development, transportation planning, environmental planning, and controlling sprawl.

GEOG-349 Cooperative Education Experience

GEOG-349 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

GEOG-351 Intermediate Geographic Information Systems

GEOG-351 Intermediate Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Basic analytical operations in Geographic Information Systems using GIS software.

Prerequisite: take GEOG-251

GEOG-399 Independent Study

GEOG-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

GEOG-449 Cooperative Education Experience

GEOG-449 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

GEOG-451 Advanced Geographic Information Systems

GEOG-451 Advanced Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Integration of Geographic Information Systems (GIS) and analytical and quantitative methodologies using spatial analysis, geostatistical analysis, network analysis, and 3-D analysis.

Prerequisite: take GEOG-351

GEOG-452 Geographic Information Systems Research Analysis

GEOG-452 Geographic Information Systems Research Analysis

(2-4 cr.)

Repeatable for Credit: No

Individualized research applying advanced GIS techniques to problems related to students' areas of study under the supervision of faculty members in their programs. Students plan, design and execute GIS projects which build geographic databases, analyze data spatially, and present results.

Prerequisite: take GEOG 451

GEOG-499 Independent Study

GEOG-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

German

GER-101 Elementary German I

GER-101 Elementary German I

(4 cr.)

Communication Skills

Repeatable for Credit: No

Establish a solid foundation in the fundamentals of the German language through the development of speaking, listening, reading and writing skills; foster interest in the language and culture of Germany.

GER-121 Elementary German I

GER-121 Elementary German I

(2 cr.)

Repeatable for Credit: No

Establish a solid foundation in the fundamentals of the German language through the development of speaking, listening, reading and writing skills; foster interest in the language and culture of Germany.

GER-122 Elementary German II

GER-122 Elementary German II

(2 cr.)

Repeatable for Credit: No

Continued development of the fundamentals of the German language through the development of speaking, listening, reading and writing skills; foster interest in the language and culture of Germany.

Prerequisite: take GER 121 or receive instructor's consent

Golf Enterprise Management

GEM-101 Introduction to Golf Enterprise Management

GEM-101 Introduction to Golf Enterprise Management

(2 cr.)

Repeatable for Credit: No

Overview of the B.S. in Golf Enterprise Management, the golf industry, national and international golf associations, and careers in the golf industry.

GEM-201 Principles of Golf Enterprise Management

GEM-201 Principles of Golf Enterprise Management

(3 cr.)

Repeatable for Credit: No

Comprehensive survey of golf facility operations and management from perspectives of resort, private, semi-private, and daily fee courses, to include principles of business, customer service, human resource management, course design and management, retail and back shop operations, food and beverage management, and event planning.

GEM-207 Club Fitting and Repair

GEM-207 Club Fitting and Repair

(2 cr.)

Repeatable for Credit: No

Overview, techniques, customer satisfaction, and benefits of custom golf club fitting and repair in golf enterprise management. A special course fee applies.

Prerequisites: take GEM-201 and PE-129

GEM-211 Customer Experience Management

GEM-211 Customer Experience Management

(3 cr.)

Repeatable for Credit: No

Principles associated with managing the customer experience, satisfaction, and the employee engagement process. Focus on blend of technology, people and information needed to achieve a distinctive competitive advantage.

GEM-217 Golf Swing Analysis and Instruction

GEM-217 Golf Swing Analysis and Instruction

(2 cr.)

Repeatable for Credit: No

Fundamentals of teaching golf including grip, setup, alignment and the full swing. Students will analyze golf swings and correct errors in swing fundamentals.

Prerequisites: Take GEM-207 and MATH-123

GEM-224 Fitting and Swing Analysis

GEM-224 Fitting and Swing Analysis

(4 cr.)

Repeatable for Credit: No

Introduction to technical applications in equipment design, player personalized fitting and play analysis. Club fitting, repair or club equipment, swing analysis, play design and evaluation in a lab or golf course setting will be presented.

Prerequisites: take GEM 101 and GEM 201

GEM-250 Turfgrass Management for Golf Courses

GEM-250 Turfgrass Management for Golf Courses

(3 cr.)

Repeatable for Credit: No

Investigates the broad subject of turfgrass management. Emphasis is placed on the application of basic turfgrass principles to golf course turfgrass culture.

Prerequisite: take GEM-101

GEM-277 Software and Technology

GEM-277 Software and Technology

(3 cr.)

Repeatable for Credit: No

Investigates the use of software and technology in the golf industry. Marketing, revenue planning, tee time management, point of sale, guest and staff scheduling and performance evaluation will be analyzed using proprietary industry software.

Prerequisite: take GEM-101

GEM-299 Independent Study

GEM-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

GEM-301 Customer Development, Retention and Marketing

GEM-301 Customer Development, Retention and Marketing

(3 cr.)

Repeatable for Credit: No

Current trends and programs for golf course customer recruiting and retention, marketing strategies, conducting and applying market research including database and internet marketing for golf course customer development and retention in public fee, semi-private, private and resort facilities.

Prerequisites: take GEM-101 and GEM-201, and take either BUMKG-330 or HT-344

GEM-325 Golf Shop Merchandising

GEM-325 Golf Shop Merchandising

(3 cr.)

Repeatable for Credit: No

Specialized study of golf shop merchandising operations, including purchasing of soft goods and golf equipment, visual presentation, inventory, and financial reporting.

Must be Sophomore level or higher

GEM-349 Cooperative Education Experience

GEM-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

GEM-350 Golf Course Soils, Layout, and Design

GEM-350 Golf Course Soils, Layout, and Design

(3 cr.)

Repeatable for Credit: No

Introduction to golf course layout and design, including soil characteristics that affect successful turf grass establishment and maintenance. topics include soil components, physical and chemical soil properties, drainage, irrigation, golf course layout, design and construction, and risk assessment.

Prerequisites: take GEM-101 and GEM-201

GEM-445 Sports Event Management

GEM-445 Sports Event Management

(3 cr.)

Repeatable for Credit: No

Planning, organization and the management of events will be investigated for the hospitality, tourism and golf industries. Emphasis is placed on the design, internal management systems and post-event evaluation.

Must be Sophomore level or higher

GEM-449 Cooperative Education Experience

GEM-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

GEM-450 Environmental Golf Course Management

GEM-450 Environmental Golf Course Management

(3 cr.)

Repeatable for Credit: No

Emphasizes the applied knowledge related to golf course operations and environmental perspective towards effective management.

Prerequisite: take GEM-250

GEM-499 Independent Study

GEM-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Graphic Communications

GCOM-141 Graphic Communications

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery.

Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile.

Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

GCOM-151 Graphics Software Tools

GCOM-151 Graphics Software Tools

(3 cr.)

Repeatable for Credit: No

Graphics software tools and processes for production/development of print and non-print graphics projects. Software features and application, image capture/creation, page layout, and web development for multiple media workflows.

GCOM-251 Premedia Graphics Production

GCOM-251 Premedia Graphics Production

(3 cr.)

Repeatable for Credit: No

Optimization of digital creation, capture and manipulation of graphics for print and digital distribution. Premedia systems, workflow, color theory, digital photo, bitmap and vector graphic creation and editing. File and font management, document layout, automation, proofing, preflight and submission of files for output.

Prerequisite: take either GCOM-151 or DES-220

GCOM-260 Graphic Communications Production Systems

GCOM-260 Graphic Communications Production Systems

(3 cr.)

Repeatable for Credit: No

Current and emerging technologies for production systems that included postpress operations. Production and job planning from a process and systems examination for needs in the graphic communications field. Quality control tools and techniques as applied for image carriers, press systems, process control, ink, toners, and substrates

Prerequisite: take GCOM 141

GCOM-295 Graphic Communications Professional Practices

GCOM-295 Graphic Communications Professional Practices

(3 cr.)

Repeatable for Credit: No

The graphic communications industry; market segments, organizations, and professional practices. Personal goal setting for professional skills and career planning specific to the industry. Research and analysis of industry trends, issues, and forecasts of print and non-print technologies, global issues, and allied communication channels. Academic and workplace language proficiency.

Prerequisite: Must be Sophomore level or higher

GCOM-300 Special Topic: A Study of Advanced Color Media Applications

GCOM-300 Special Topic: A Study of Advanced Color Media Applications

(3 cr.)

Repeatable for Credit: Yes

Understanding and solving color-related issues for brands. Color consistency, communication, and accuracy from creation, to production, to market. Controlling the brand across various media, including print, video and web.

Prerequisite: Instructor consent

GCOM-340 Graphic Communications Color and Quality

GCOM-340 Graphic Communications Color and Quality

(3 cr.)

Repeatable for Credit: No

Research and application of industry standards and specifications of color management practices for accurate color reproduction throughout both RGB and CMYK workflows. Colorimetric and densitometric analysis and profiling strategies. Color management applications, devices and best practices for controlling image capture, image display, electronic publishing, soft proofing and printing.

Prerequisite: take GCOM 251

GCOM-349 Cooperative Education Experience

GCOM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Prerequisite: take GCOM 295

GCOM-351 Cross-Media Campaigns

GCOM-351 Cross-Media Campaigns

(3 cr.)

Repeatable for Credit: No

Software, systems and processes used to plan and produce personalized and integrated cross-media (Web, print, e-mail, mobile, PDF, eBook, and other digital media) marketing/promotion campaigns. Databases, layout issues, dynamic content (text, images, charts and graphs), scripting, automation, variable data digital printing and personalization, design platforms and web storefront interaction.

Prerequisites: take GCOM-251

GCOM-362 Screen and Specialty Printing

GCOM-362 Screen and Specialty Printing

(3 cr.)

Repeatable for Credit: No

Screen, and other specialty printing on a variety of substrates. Wide format, three-dimensional, lenticular, cut vinyl graphics, dye sublimation, pad printing, laser marking/engraving, issues and process-control concerns unique to these image transfer methods. Special course fee applies.

Prerequisite: take GCOM-141

GCOM-440 Graphic Communications Workflow, Automation and Costing

GCOM-440 Graphic Communications Workflow, Automation and Costing

(3 cr.)

Repeatable for Credit: No

Examination of print and graphics production environments, workflows and costing approaches. Production planning, estimating costs, optimized workflow approaches, automation, streamlining alternatives and scheduling.

Prerequisite: junior standing

GCOM-443 Graphic Communications Practicum

GCOM-443 Graphic Communications Practicum

(3 cr.)

Repeatable for Credit: Yes

Integration of all Graphic Communications processes in the design and production of print and non-print graphic products and services for clients in the university community. Special emphasis on the process and workflow management roles of estimating, customer service, scheduling, planning, production supervision and quality control.

Prerequisites: Junior Level

GCOM-445 Publication Production

GCOM-445 Publication Production

(3 cr.)

Repeatable for Credit: No

Cross-discipline work teams experience integration of creative, technical and managerial skills to design, plan, schedule, produce and distribute print and digital versions of a publication.

Prerequisite: take GCOM 351

GCOM-449 Cooperative Education Experience

GCOM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

GCOM-498 Field Experience

GCOM-498 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

GCOM-499 Independent Study

GCOM-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Health

HLTH-101 Discovering Wellness

HLTH-101 Discovering Wellness

(1 cr.)

Repeatable for Credit: No

Introduction to the components and benefits of high level wellness; includes self-assessment and the development of an action plan for lifetime wellness.

HLTH-196 Discovering Wellness

HLTH-196 Discovering Wellness

(3 cr.)

Repeatable for Credit: No

Analysis of consequences of personal decisions and personal lifestyle choices related to personal health and well-being. Techniques employed in the promotion of health information, services and products. Focuses on the needs of pre-professional elementary and secondary education students in Scotland.

HLTH-199 Independent Study

HLTH-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HLTH-249 Cooperative Education Experience

HLTH-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

HLTH-296 Basic Life Support and CPR

HLTH-296 Basic Life Support and CPR

(1 cr.)

Repeatable for Credit: No

Correct techniques according to American Red Cross to provide heartbeat and breathing in victims of cardiac arrest by means of external check compression and mouth-to-mouth resuscitation. Upon successful completion, students will be certified by the American Red Cross in community CPR.

HLTH-296B Contemporary Health Issues

HLTH-296B Contemporary Health Issues

(3 cr.)

Global Perspective

Repeatable for Credit: No

Exploration and analysis of contemporary health trends in the U.S., U.K., and globally. The implications for the individual, family, community, and society will be explored. Emphasis is placed on the prevention of health problems through the thoughtful examination of ethical issues and exercising of personal responsibility relative to lifestyle choices.

HLTH-296C Stress Management

HLTH-296C Stress Management

(3 cr.)

Global Perspective

Repeatable for Credit: No

Students observe and identify environments and behaviors of Scottish people compared to their home environments. Students identify risky and health behaviors in Scotland compared to the U.S. Two questions will be answered: how do we learn to manage stress to achieve optimal wellness, and is stress a global epidemic?

HLTH-299 Independent Study

HLTH-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HLTH-349 Cooperative Education Experience

HLTH-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

HLTH-350 Prevention and Care of Athletic Injuries

HLTH-350 Prevention and Care of Athletic Injuries

(3 cr.)

Repeatable for Credit: No

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

Prerequisites: take HWF-340 and BIO-234

HLTH-365 Physiology of Exercise

HLTH-365 Physiology of Exercise

(3 cr.)

Repeatable for Credit: No

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: take BIO-132

HLTH-396 Wellness: A Personal Choice

HLTH-396 Wellness: A Personal Choice

(3 cr.)

Repeatable for Credit: No

Consequences of personal decisions and personal lifestyle choices related to personal health and well-being. Focuses on needs of elementary and secondary school teachers.

HLTH-399 Independent Study

HLTH-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HLTH-449 Cooperative Education Experience

HLTH-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

HLTH-499 Independent Study

HLTH-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Health Education

HLTED-360 Personal Health and Fitness

HLTED-360 Personal Health and Fitness

(3 cr.)

Repeatable for Credit: No

Analysis of consequences of individual decisions and lifestyle choices related to personal health and well-being.

HLTED-375 Methods In Health, Wellness and Fitness

HLTED-375 Methods In Health, Wellness and Fitness

(3 cr.)

Repeatable for Credit: No

Health education teaching methods, teaching health related concepts: stress management, cardiovascular fitness, nutrition, and physical testing.

HLTED-376 Organization and Administration of Health Education

HLTED-376 Organization and Administration of Health Education

(3 cr.)

Repeatable for Credit: No

Planning, promoting, and implementing comprehensive health education programs at the elementary, middle, and secondary levels.

Needs assessment; curriculum development and coordination; public relations; and the development of cooperative relationships with parents, private business, and voluntary and community health agencies.

Department Consent

HLTED-485 Health Education Student Teaching

HLTED-485 Health Education Student Teaching

(2 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

HLTED-499 Independent Study

HLTED-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Health, Wellness and Fitness

HWF-100 Introduction to Health, Wellness & Fitness Industry

HWF-100 Introduction to Health, Wellness & Fitness Industry

(2 cr.)

Repeatable for Credit: No

Exploration of the major components, systems, and processes of the health, wellness, and fitness industry. Examination of past and present trends and key components in various industry sectors. Advisement on course sequence, field experience and career opportunities.

HWF-225 Structural Kinesiology

HWF-225 Structural Kinesiology

(3 cr.)

Repeatable for Credit: No

Musculoskeletal anatomy as it applies to human movement as well as basic kinesiological concepts. Muscle and bone identification as well as joint function and structure.

HWF-275 Lifespan Health, Wellness and Fitness

HWF-275 Lifespan Health, Wellness and Fitness

(3 cr.)

Repeatable for Credit: No

Understanding the importance of a healthy lifestyle throughout the lifespan. Examination of health, history, medications, culture, ages, lifestyles, predisposed health conditions, injury/physical challenges, and the individual's goals/objectives.

HWF-322 Health and Fitness Assessment

HWF-322 Health and Fitness Assessment

(3 cr.)

Repeatable for Credit: No

Health and fitness evaluation, theory and practice. Cardiorespiratory, body composition, musculoskeletal screens, flexibility, balance, power and agility evaluation.

Prerequisites: take BIO-234 & HWF 225

HWF-340 Community CPR, Automatic External Defibrillation and First Aid

HWF-340 Community CPR, Automatic External Defibrillation and First Aid

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

American Red Cross Certification - Adult, child and infant CPR, automated external defibrillator use, first aid; personal safety, accident prevention knowledge; sudden illness recognition; respond/administer emergency techniques; social responsibility, ethical reasoning, first aid and emergency situations. A special course fee applies.

HWF-345 Health and Wellness Coaching

HWF-345 Health and Wellness Coaching

(3 cr.)

Repeatable for Credit: No

Health and wellness coaching strategies to help implement behavior change. Communication, assessment and program design

necessary for effective goal attainment.

HWF-345 Health and Wellness Coaching

HWF-345 Health and Wellness Coaching

(3 cr.)

Repeatable for Credit: No

Health and wellness coaching strategies. Exercise and weight control to promote lifelong behavior change. Communication, assessment and program design necessary for effective goal attainment.

HWF-348 Stress Assessment and Intervention

HWF-348 Stress Assessment and Intervention

(3 cr.)

Repeatable for Credit: No

Theory and methods related to stress interpretation, recognition and intervention. Developing skills necessary for identifying stressors and applying appropriate intervention techniques that will lead to a healthy lifestyle. Designing prescription plans for individual and groups.

HWF-370 Personal and Group Exercise: Theory and Methods

HWF-370 Personal and Group Exercise: Theory and Methods

(3 cr.)

Repeatable for Credit: No

Theory and methods related to personal and group fitness. Developing skills necessary for teaching fitness classes in various settings. Designing prescription plans for individuals and groups. Current and past fitness trends.

HWF-380 Fitness Club Management

HWF-380 Fitness Club Management

(3 cr.)

Repeatable for Credit: No

Managerial and supervisory responsibilities with an emphasis on human resource management, planning, policies, procedures, finances, programming, marketing, and risk management in fitness and wellness related centers. Special course fee may apply.

HWF-390 Recreational Facilities Management and Leadership

HWF-390 Recreational Facilities Management and Leadership

(3 cr.)

Repeatable for Credit: No

Basic methods, concepts, and procedures of planning, programming, budgeting, project management, and operations management. Theories and principles of personal, managerial, and administrative leadership in recreational services; identification of policies, health and emergency procedures, and contingency plans for the operation of recreational leagues and tournaments.

Prerequisites: Take BUMGT-304

HWF-398 Field Experience in Health, Wellness and Fitness

HWF-398 Field Experience in Health, Wellness and Fitness

(1-8 cr.)

Repeatable for Credit: No

Work and study in an approved health, wellness or fitness position. Students will work under supervision in this experience. Minimum of 160 contact hours.

Department Consent

HWF-405 Wellness Promotion and Programming

HWF-405 Wellness Promotion and Programming

(3 cr.)

Repeatable for Credit: No

Workplace and the environment's influence on health. Strategies for health behavior change. Exploration of health risk and needs assessment. Planning, developing, evaluating and managing wellness programs.

HWF-410 Kinesiological Biomechanics

HWF-410 Kinesiological Biomechanics

(3 cr.)

Repeatable for Credit: No

Exploration of the principles involved in analyzing human movement.

No

Prerequisites: take BIO 234 , HWF 225 , MATH 118 or higher

HWF-418 Administration of Strength Training and Conditioning

HWF-418 Administration of Strength Training and Conditioning

(4 cr.)

Repeatable for Credit: No

Exercise science and its application to program design, implementation, and evaluations. Preparation for the National Strength and Conditioning Association (NSCA) and the Certified Strength and Conditioning Specialist (CSCS) examinations.

Prerequisites: take BIO-234

HWF-449 Cooperative Education Experience

HWF-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

HWF-498 Advanced Field Experience in Health, Wellness and Fitness

HWF-498 Advanced Field Experience in Health, Wellness and Fitness

(1-3 cr.)

Repeatable for Credit: Yes

Work and study in an approved health, wellness or fitness position. Students will work with supervision in this experience. Minimum of 320 contact hours.

Department Consent

History

HIST-120 Early United States History

HIST-120 Early United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War.

HIST-121 Modern United States History

HIST-121 Modern United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War.

HIST-130 Greeks, Romans and Barbarians: The Uses and Misuses of Our Global Past

HIST-130 Greeks, Romans and Barbarians: The Uses and Misuses of Our Global Past

(3 cr.)

Global Perspective, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cinematic, artistic, literary, and historical representations of Greek, Roman and medieval history. Diverse cultures, ethnicities, languages, and religions that wrote the story of the Mediterranean world. Comparison of the factual history of these peoples and regions with the misrepresentation in modern media and popular entertainment.

HIST-131 Landscape of Greek Myth

HIST-131 Landscape of Greek Myth

(1 cr.)

Repeatable for Credit: No

How Greek myth defined the lived space that lies at the nexus of ideology, imagination, interaction, and place in Ancient Greece. "Autochthonous" ground of Greek mythology. Mythological representation of nature, human beings, and the divine. How myth helped define the Greek experience. Study abroad travel coordinated via the Office of International Education.

HIST-140 Western Civilization

HIST-140 Western Civilization

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

HIST-141 Western Civilization

HIST-141 Western Civilization

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of Western civilization from Reformation to present.

HIST-196 Origins Of Current World Conflicts

HIST-196 Origins Of Current World Conflicts

(3 cr.)

Arts and Humanities - History, Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Three or four topics selected from the following: Middle East, Russia-China, Yugoslavia, Poland, Northern Ireland, and other areas of present or future conflict. Emphasis on past national, religious, economic, and social developments as they relate to the present.

HIST-199 Independent Study

HIST-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HIST-210 Modern World History

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

HIST-230 Sexualities in Historical and Social Perspective

HIST-230 Sexualities in Historical and Social Perspective

(3 cr.)

Racial & Ethnic Studies Category B, Cross-disciplinary Issues

Repeatable for Credit: No

Sociology and history of sexual identities and categories and their uses to justify public policy; the normative and institutional context of how power is exercised in relation to sexuality, especially the stratification of society based on sexuality. Contemporary controversies such as gay marriage and other civil rights issues.

HIST-249 Cooperative Education Experience

HIST-249 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

HIST-290 Words, Images, Sounds and the Projection of Global Culture

HIST-290 Words, Images, Sounds and the Projection of Global Culture

(3 cr.)

History, Contemporary Issues

Repeatable for Credit: No

Ways in which traditional historical and anthropological formats have been impacted by new forms of visual media. An appreciation of new techniques in historical and anthropological analysis and practical experience in multimedia presentations of important global questions.

HIST-296 Filming Capitalism and Culture in Modern Greece

HIST-296 Filming Capitalism and Culture in Modern Greece

(3 cr.)

Global Perspective, Arts and Humanities - History, Cross-disciplinary Issues

Repeatable for Credit: No

Study abroad program in Greece. Introduction to the history, theory, and practice of visually documenting the effects of capitalism and tourism on traditional cosmopolitan outlooks in Greek society. Visual analysis to document how capitalism and tourism displace traditional Greek values, such as philoxenia and philotimo, in contemporary interactions between Greeks and foreign travelers.

HIST-296 U.S. Labor History in a Global Context

HIST-296 U.S. Labor History in a Global Context

(3 cr.)

Arts and Humanities - History, Racial & Ethnic Studies Category A, Global Perspective

Repeatable for Credit: No

Evolution of the meanings of "work" and types of U.S. labor systems, especially in terms of race/ethnicity; the clash of democracy and capitalism, free and unfree labor; the rise of communes, unions, the managerial class, and the needs for immigrant labor.

Comparisons to current conditions in China.

Prerequisite: Study Abroad in China

HIST-296 Women and Gender in Europe: 1750 To Present

HIST-296 Women and Gender in Europe: 1750 To Present

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

History of women and gender ideas in Western Europe and the changing status of women in European society. Using writings by and about women, explore how women's identities were shaped and how they sought to gain greater access to political, social, and economic equality.

HIST-296C Women's History: Comparative U.S. and the U.K.

HIST-296C Women's History: Comparative U.S. and the U.K.

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Provides essential understanding of U.S. women's history from 1900-1950 in comparison to women of the United Kingdom. Special focus on economics, social, cultural and political development. Offered only through the Wisconsin in Scotland program.

Department Consent

HIST-299 Independent Study

HIST-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HIST-310 Sexualities in Historical and Social Perspective

HIST-310 Sexualities in Historical and Social Perspective

(3 cr.)

Racial & Ethnic Studies Category B, Cross-disciplinary Issues

Repeatable for Credit: No

Sociology and history of sexual identities and categories and their uses to justify public policy; the normative and institutional context of how power is exercised in relation to sexuality, especially the stratification of society based on sexuality. Contemporary controversies such as gay marriage and other civil rights issues.

Must be Sophomore level or higher

HIST-311 Women and War: A Global Perspective in the Modern Era

HIST-311 Women and War: A Global Perspective in the Modern Era

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines the lives and roles of women in conflicts from 1789 to the present during wars in Europe, Africa, Asia, and Latin America with minor focus on the United States.

HIST-321 United States Women's History

HIST-321 United States Women's History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity, class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

HIST-322 African-American History

HIST-322 African-American History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Social, cultural, economic and political history of African-Americans, with special focus on the United States.

HIST-323 American Immigration and Ethnic History

HIST-323 American Immigration and Ethnic History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

American immigration and ethnic history from the nation's colonial roots to the present. Conceptualization of immigration and ethnicity in historical perspective; the immigration experience; interaction with and responses of the established native populations to the arrival of diverse others; continuing issues of immigration and ethnicity in a historical perspective.

Must be Junior level or higher

HIST-330 History of World War II

HIST-330 History of World War II

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Causes, conduct and effects of World War II.

HIST-335 World War II: An Ethnic and Global History

HIST-335 World War II: An Ethnic and Global History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

Examine World War II through exploration of ethnicity and race both in the United States and abroad.

Must be Sophomore level or higher

HIST-340 Constructed Identities: History of Race, Ethnicities and Mixed-Race Peoples

HIST-340 Constructed Identities: History of Race, Ethnicities and Mixed-Race Peoples

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination and analyzes the history of mixed-race and multi-ethnic identities and categories in what becomes the United States with comparisons to other American nations. First Nations, Hispanic, African-American, and Asian-American peoples from pre-contact through present day, especially the policing of identities and categories and the mediation of "authentic" identity in a raced and gendered historical context.

Must be Sophomore level or higher

HIST-347 Introduction To British Civilization

HIST-347 Introduction To British Civilization

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

British society, culture, economy and politics in the modern period since 1850. Offered only at the Wisconsin in Scotland (WIS) Center.

HIST-349 Cooperative Education Experience

HIST-349 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

HIST-350 History of the Vietnam War

HIST-350 History of the Vietnam War

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

American role in the Vietnam War, particularly goals, objectives and dilemmas faced by American policymakers; roles and contributions of American men and women in the military and in civilian society; development and impact of the anti-war movement; and long-term consequences of the war on American culture and society.

HIST-360 Asian History

HIST-360 Asian History

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world.

HIST-377 History of Ideas in the Age of Technology

HIST-377 History of Ideas in the Age of Technology

(3 cr.)

Global Perspective, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Survey of the important twentieth-century thinkers in film, literature, psychology, physics, statistics and philosophy who have assessed the impact of technology on individuality, creativity and potential for ethical engagement around the globe.

HIST-380 Latin American History

HIST-380 Latin American History

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Political, social and economic history of Middle and South America, pre-Columbian to present.

HIST-390 Modern History of Science and Technology

HIST-390 Modern History of Science and Technology

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines a global history of science and technology. Themes include: scientific theories and methods within their intellectual contexts; relationships between science, technology, and society; interactions between cultural groups (Western; non-Western) as impacted by science and technology; impacts of science and technology on race, gender, and other groups.

HIST-391 History of Social Science and Race

HIST-391 History of Social Science and Race

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

History of social science and its applications, especially focused on ideas about race. Themes include: development of theories and methods; relationships between knowledge and applications; behavioral and normative diversity of cultural and other groupings; changing beliefs about race and ethnicity.

HIST-392 History of Mad Science

HIST-392 History of Mad Science

(3 cr.)

Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Moral execution of scientific methods by exploring important cases of wrongdoing. Themes include ethical responsibilities at each step in the scientific process; examples of misbehavior in the history of science; recent examples of controversial research; contemporary strategies for preventing unethical science.

HIST-396 The Age of Revolutions

HIST-396 The Age of Revolutions

(3 cr.)

This course explores the revolutionary movements that spread across the Atlantic World from the 1770s to the early 1800s, a period some have called the "Age of Revolutions." Specifically, it will focus upon the American Revolution, the French Revolution, and the Haitian Revolution from a comparative perspective. This approach will allow students to draw connections and understand how major philosophical, intellectual, and political movements of the era were shared between and shaped these three seemingly diverse revolutionary moments. Focus will also be placed upon how these revolutionary movements challenged or reinforced contemporary understandings of race, gender, and class.

HIST-399 Independent Study

HIST-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HIST-449 Cooperative Education Experience

HIST-449 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

HIST-460 History Methods

HIST-460 History Methods

(2 cr.)

Repeatable for Credit: No

Historiography and application of the historical method, including the study of teaching methods, instructional materials, and evaluation techniques.

History minors only

HIST-499 Independent Study

HIST-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Hmong

HMON-101 Elementary Hmong I

HMON-101 Elementary Hmong I

(4 cr.)

Communication Skills

Repeatable for Credit: No

Introduction to Hmong, with development of listening, vocabulary, speaking, reading, writing and conversations. Concurrent

development of appreciation for language, dialects and Hmong culture.

HMON-102 Elementary Hmong II

HMON-102 Elementary Hmong II

(4 cr.)

Communication Skills

Repeatable for Credit: No

Continuation of elementary Hmong-101 in the development of listening, vocabulary, speaking, reading, writing and conversations. Increase appreciation of the language, dialects, and Hmong culture.

Prerequisite: take HMON 101

Hospitality and Tourism

HT-100 Introduction to Hospitality

HT-100 Introduction to Hospitality

(2 cr.)

Repeatable for Credit: No

Exploration of the major components and organization structure of the hospitality industry. Presents historical development, opportunities and current trends. Stresses the importance and relationship of education and work experience to career success. Examination of the key components in various industry sectors including food service, lodging, tourism, gaming, and property management.

HT-101 Principles of Hospitality Organizational Management

HT-101 Principles of Hospitality Organizational Management

(3 cr.)

Repeatable for Credit: No

Explore the major components and organization structure of the hospitality industry, while preparing students for management opportunities. The class will study hospitality operations with a focus on management, leadership and organizational behavior.

HT-121 Principles of Foodservice Operations

HT-121 Principles of Foodservice Operations

(3 cr.)

Repeatable for Credit: No

Professional segments of foodservice operations: history, types of operations, functions, facilities design, equipment, basic cooking principles, dining room service, and management concepts.

HT-140 Principles of Tourism

HT-140 Principles of Tourism

(3 cr.)

Repeatable for Credit: No

Scope, structure, and function of tourism as an industry and a sociocultural phenomenon; industry components and the importance of maximizing costs to its stakeholders.

HT-149 Cooperative Education Experience

HT-149 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

HT-150 Institutional Food Purchasing

HT-150 Institutional Food Purchasing

(2 cr.)

Repeatable for Credit: No

Methods of large-quantity food purchasing: determining standards, specific needs and industrial offerings; formulating specifications, buying procedures and controls.

HT-235 Lodging Systems

HT-235 Lodging Systems

(3 cr.)

Repeatable for Credit: No

Examination of the basic skills needed in a lodging facility. Specific roles, functions, and policies pertaining to the Rooms Division.

Must be Sophomore level or higher

HT-240 Tourism Goods and Services

HT-240 Tourism Goods and Services

(3 cr.)

Repeatable for Credit: No

Analysis of tourism goods and services in relationship to future patterns of supply and demand.

Prerequisites: take HT-140 and ECON-210

HT-249 Cooperative Education Experience

HT-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

HT-252 Professionalism

HT-252 Professionalism

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Prepare students as professionals in a global community. Emphasis on professional attire, dining etiquette, cultures, business conversation, ethics, and job search and placement techniques.

HT-299 Independent Study

HT-299 Independent Study

1-(3 cr.)

Repeatable for Credit: Yes

Department Consent

HT-316 Casino Operations Management

HT-316 Casino Operations Management

(3 cr.)

Repeatable for Credit: No

Functions and transactions associated with the gaming operations environment within a resort casino.

HT-323 Food Service Equipment

HT-323 Food Service Equipment

(2 cr.)

Repeatable for Credit: No

Factors affecting design, selection, physical facilities and utilities involved in foodservice equipment.

HT-324 Quantity Food Production

HT-324 Quantity Food Production

(3 cr.)

Repeatable for Credit: No

Quantity food production management concepts; menu planning, work production schedules, production analysis, food and labor cost controls, and sales projections, crisis and service management techniques; lab work in quantity food production and service; recipe development and introduction to productivity and work simplification concepts.

Prerequisites: Take HT 121 and FN-115 and FN-215, or take FN-124 and FN-240

HT-325 Food Service Production and Operations Management

HT-325 Food Service Production and Operations Management

(3 cr.)

Repeatable for Credit: No

Examination and synthesis of principal production and operational challenges facing managers in the food service industry using various control systems required to maximize the quality and profitability in the food service operation.

Prerequisite: take HT-121

HT-326 Introduction to Wines and Spirits

HT-326 Introduction to Wines and Spirits

(3 cr.)

Global Perspective

Repeatable for Credit: No

Applied and historical knowledge of wines and spirits from different regions of the world; emphasis on preparation, selection, accompaniment with food, basic cost control analysis and service. A special course fee applies.

Must be 21 years of age or older

HT-330 Resort Planning and Operation

HT-330 Resort Planning and Operation

(3 cr.)

Repeatable for Credit: No

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management.

HT-335 Lodging Operations Management

HT-335 Lodging Operations Management

(3 cr.)

Repeatable for Credit: No

Investigation of supervisory roles in lodging management, with an emphasis on the importance of financial statements and their interpretation, human resources and productivity, and providing quality hospitality services within all types of lodging facilities.

Prerequisites: take HT 235

HT-340 Development of Tourism Attractions

HT-340 Development of Tourism Attractions

(3 cr.)

Repeatable for Credit: No

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations.

Prerequisites: take HT-140 and ECON-210

HT-341 Geography Of Tourism

HT-341 Geography Of Tourism

(3 cr.)

Repeatable for Credit: No

Examination of the global phenomenon of tourism with emphasis on the impact to national, regional, and local socio-cultural, economic, and natural/man-made environments. Further analysis on developing countries, the relationship between host and guests, tourism operators, various types of tourism, and sustainability of a destination.

No

HT-344 Hospitality and Tourism Marketing and Sales

HT-344 Hospitality and Tourism Marketing and Sales

(3 cr.)

Repeatable for Credit: No

Analysis of marketing strategy, sales techniques, promotional tools, and research for hospitality and tourism development.

Must be Junior level or higher

HT-345 Hospitality Sales

HT-345 Hospitality Sales

(3 cr.)

Repeatable for Credit: No

A comprehensive view of sales in the hotel/hospitality industry as it related to the achievement of sales goals. Hospitality sales strategies including the processes and focused as it relates to the hospitality industry.

HT-349 Cooperative Education Experience

HT-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

HT-350 Hospitality Diversity Management

HT-350 Hospitality Diversity Management

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Analysis of multiculturalism and diversity in the hotel, restaurant and tourism workplace. Managing a diverse workforce in a logical and meaningful manner through understanding self-perspectives, group identities, and workplace strategies.

Must be Junior level or higher

HT-351 Hospitality Convention/Meeting Planning

HT-351 Hospitality Convention/Meeting Planning

(3 cr.)

Repeatable for Credit: No

The roles and responsibilities of professional hospitality meeting planners and hotel convention sales/service managers are examined for purposes of planning or hosting a major convention, or a corporate, association, or special group meeting event.

HT-352 Club Management

HT-352 Club Management

(3 cr.)

Repeatable for Credit: No

Managing a membership, city, health and fitness, military, golf, or other social or recreation club.

Must be Junior level or higher

HT-360 Tourism for Persons with Disabilities

HT-360 Tourism for Persons with Disabilities

(3 cr.)

Repeatable for Credit: No

Examination of the effectiveness of current legislation and initial strategies to purposely accommodate the needs and preferences of persons with disabilities to promote a more inclusive environment within the hospitality and tourism industry.

HT-362 Foodservice Finance and Cost Control

HT-362 Foodservice Finance and Cost Control

(3 cr.)

Repeatable for Credit: No

The use of financial techniques and systems to develop and analyze budgets, control food, beverage, and labor costs in foodservice

operations.

Prerequisite: take BUACT-206

HT-365 Craft Beverage Production & Management

HT-365 Craft Beverage Production & Management

(3 cr.)

Repeatable for Credit: No

Management and operation of breweries, distilleries and wineries; investigation of the industry's economic, legal, social and competitive environment. Unique offering creation, beverage production and distribution; annual planning and budgeting, legal compliance, quality service delivery and personnel management.

HT-374 Principles of Timeshare Management

HT-374 Principles of Timeshare Management

(3 cr.)

Repeatable for Credit: No

Introduction to timeshare management; similarities and differences between timeshare operations and other hospitality businesses. Tourism influences on timeshare development.

HT-375 Tourism, Culture & Place

HT-375 Tourism, Culture & Place

(3 cr.)

Racial and Ethnic Studies Category A

Repeatable for Credit: No

Examines impacts that tourism has on diverse cultures; the influence of visitors' expectations on underrepresented local peoples, and the cultural and racial effects of tourism. Consequences of stratified public policies, individual transformations to meet visitor demands and strategies to mitigate exploitation and negative place transformation.

HT-383 Yield Management

HT-383 Yield Management

(3 cr.)

Repeatable for Credit: No

Investigation of the use of computer technology in the lodging industry for revenue planning, scheduling and performance evaluation. Specialized software will be used to analyze and evaluate hotel performance.

Prerequisites: take HT 235 , HT-200 and STAT 130

HT-391 Principles of Social Media Marketing Management

HT-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

HT-396 Workshop in Recreation and Parks: Scotland's Public Spaces

HT-396 Workshop in Recreation and Parks: Scotland's Public Spaces

(3 cr.)

Repeatable for Credit: No

Introduction to wide range of public spaces and recreational facilities across Scotland and their use, such as public squares, botanical gardens, arboretums, and historical museums. Critical analysis of the site is introduced to determine whether the space was successfully designed to meet the needs of users.

HT-396A Social Media Marketing Management

HT-396A Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Social media marketing practices and management of the social media process. Focused on business models within social marketing, customer change impacting unit practices, social platform effectiveness, customer service and engagement, applications within hospitality and related services, privacy and legal considerations.

Must be Sophomore level or higher

HT-399 Independent Study

HT-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HT-418 Casino Tourism

HT-418 Casino Tourism

(3 cr.)

Repeatable for Credit: No

Research/travel and visits with Chambers of Commerce, casino management personnel, and governing entities to study economic, sociological and cultural impacts of gaming within a particular global or local region. A special course fee applies.

Prerequisites: take HT-315, HT-316, and HT-317

HT-423 Wine and Food Pairing

HT-423 Wine and Food Pairing

(4 cr.)

Global Perspective

Repeatable for Credit: No

Applied approach to match wine and food from different parts of the world using flavors, textures, and components present in food and wine as complementing strategies. Emphasis on menu planning, preparation of foods, cooking methods, and tasting wines with food in a formal dining room.

Prerequisite: take HT-326

HT-426 Restaurant Operational Management

HT-426 Restaurant Operational Management

(3 cr.)

Repeatable for Credit: No

Application of the principles of food and beverage management in full service restaurants existing as independent units or as units within a commercial/ noncommercial foodservice operation. The course will emphasize fine dining, fine cuisine and control systems.

Prerequisite: take HT-324

HT-430 Lodging Administration

HT-430 Lodging Administration

(3 cr.)

Repeatable for Credit: No

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization.

Prerequisite: Senior level and HT-383

HT-440 Sociocultural Systems of Tourism

HT-440 Sociocultural Systems of Tourism

(3 cr.)

Repeatable for Credit: No

Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents.

Must be Senior level or higher

HT-442 Trade Show Management

HT-442 Trade Show Management

(3 cr.)

Repeatable for Credit: No

Investigate and apply the process and procedures to plan and manage a trade show from a developer and user perspective. Define the process to select and develop, arrange for site and support services leading to a profitable trade show.

HT-445 Event Management

HT-445 Event Management

(3 cr.)

Repeatable for Credit: No

Planning, organization and the management of specialty and community events will be investigated. Emphasis is placed on the design, internal management systems and post event evaluation.

HT-447 International Convention and Meeting Management

HT-447 International Convention and Meeting Management

(3 cr.)

Repeatable for Credit: No

Investigate the process and procedures to plan for meetings in other countries.

HT-449 Cooperative Education Experience

HT-449 Cooperative Education Experience

(2 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

Must be Junior level or higher

HT-450 Food Service Administration

HT-450 Food Service Administration

(3 cr.)

Repeatable for Credit: No

Organization and administration of institutional foodservice systems, personnel selection and training, cost control and problems of supervision.

HT-452 Hospitality Professionalism

HT-452 Hospitality Professionalism

(2 cr.)

Repeatable for Credit: No

Prepare hotel, restaurant and tourism students as professionals in a global community. Role-play emphasis on professional dress, dining etiquette, culture and business conversation, job search and placement techniques.

HRTM or Property Management Majors only

HT-454 Security and Risk Management for the Hospitality Industry

HT-454 Security and Risk Management for the Hospitality Industry

(3 cr.)

Repeatable for Credit: No

Advanced investigation of security and risk management within hospitality/service industries.

HT-457 Hospitality Management Strategies

HT-457 Hospitality Management Strategies

(3 cr.)

Repeatable for Credit: No

Comparison and synthesis of hospitality management strategies; concepts and theories in relationship to long-term hospitality business goals and objectives. Capstone course for senior-level H&T students.

Prerequisite: Must be Senior level and take HT-362

HT-460 Hospitality Industry Law and Liability

HT-460 Hospitality Industry Law and Liability

(3 cr.)

Repeatable for Credit: No

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

HT-461 Hospitality Employee Relations

HT-461 Hospitality Employee Relations

(3 cr.)

Repeatable for Credit: No

History and legal strategies and tactics in dealing with hospitality employees in both union and non-union settings.

HT-481 Special Problems in Hospitality and Tourism

HT-481 Special Problems in Hospitality and Tourism

(1-3 cr.)

Repeatable for Credit: Yes

HT-490 Hospitality Capstone

HT-490 Hospitality Capstone

(3 cr.)

Repeatable for Credit: No

Project-based capstone for Hotel, Restaurant, and Tourism Management majors involving the integration and application of interdisciplinary management concepts, theories, and practices instrumental to management success within the hospitality and tourism industry.

Must be Senior level or higher

HT-492 Seminar in Hospitality and Tourism Management

HT-492 Seminar in Hospitality and Tourism Management

(3 cr.)

Repeatable for Credit: Yes

An advanced course in management. The student will select and research a current topic of importance to the industry. A special course fee applies.

HT-498 Hospitality & Tourism Field Experience

HT-498 Hospitality & Tourism Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

Department Consent

Must be Senior level or higher

HT-499 Independent Study

HT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Human Development and Family Studies

HDFS-101 Introduction to Human Development and Family Studies

HDFS-101 Introduction to Human Development and Family Studies

(1 cr.)

Repeatable for Credit: No

Introduction to the academic program and professional field of Human Development and Family Studies. Program requirements, policies, and expectations. Overview of the family studies field and related knowledge and skills. Careers in the helping professions.

HDFS-115 Healthy Couple Relationships

HDFS-115 Healthy Couple Relationships

(3 cr.)

Repeatable for Credit: No

Intimate relationship development; characteristics of diverse committed relationships. Elements of healthy relationships and issues leading to relationship dissolution. topics include: self-awareness, communication, love, commitment, sexualities, sexual decision-making, partner selection, and relationship dysfunctions. Realistic expectations about intimate relationships.

HDFS-124 Human Development: Early Childhood

HDFS-124 Human Development: Early Childhood

(3 cr.)

Repeatable for Credit: No

Principles and theories of growth and development prenatal through pre-adolescence, with a systemic perspective on physical, motor, cognitive, language and social and emotional development. Observations required.

HDFS-195 Honors Seminar: Lifespan Human Development

HDFS-195 Honors Seminar: Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Review, discuss and analyze theories of human development across the lifespan.

HDFS-215 Introduction to Families

HDFS-215 Introduction to Families

(3 cr.)

Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Understand family science discipline and families from a **family science perspective**. Examine "family" and apply theoretical frameworks for studying families. Emphasis on internal family system functioning, intergenerational dynamics and *family as a changing unit over time*. Examine family transitions, stages, and developmental tasks over the life course.

HDFS-225 Skill Training for Individual/Family Interventions

HDFS-225 Skill Training for Individual/Family Interventions

(3 cr.)

Repeatable for Credit: No

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings.

HDFS-249 Cooperative Education Experience

HDFS-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved business/industry position related to the student's major. Selection by application and interview. Instructor's Consent Required

HDFS-255 Lifespan Human Development

HDFS-255 Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

HDFS-257 Lifespan Sexuality

HDFS-257 Lifespan Sexuality

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Introduction to human sexuality over the lifespan, utilizing an individual and family perspective. Development of sexual behavior, relationships, and gender characteristics from infancy to late life. Emphasis on ethical issues and implications of sexuality, gender and sexual orientation. Discussion of love and intimacy as key aspects of sexuality.

HDFS-264 Child Guidance

HDFS-264 Child Guidance

(3 cr.)

Repeatable for Credit: No

Developmentally appropriate principles and strategies for child guidance. Systems perspective, positive discipline, theoretical approaches, current topics, developing a personal/eclectic approach.

Prerequisite: take HDFS-124

HDFS-270 Seminar on Self-Growth

HDFS-270 Seminar on Self-Growth

(3 cr.)

Repeatable for Credit: No

Course in personal growth and self-management. A starting point in working with families in a diverse world is to begin with an understanding of self. Learning strategies are aimed at bridging theory with real-life experiences.

HDFS-275 Race Matters: Interdisciplinary Investigations

HDFS-275 Race Matters: Interdisciplinary Investigations

(3 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

Application of cognitive and emotional skills to racial topics such as interpersonal relationships, media, and politics. Types of racism. How to talk about race. Antiracist strategies.

HDFS-290 Introduction to Understanding Knowledge in HDFS

HDFS-290 Introduction to Understanding Knowledge in HDFS

(2 cr.)

Repeatable for Credit: No

Introduction to knowledge, theory, research, and epistemology in Human Development and Family Studies.

Prerequisite: take HDFS 101

HDFS-299 Independent Study

HDFS-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

HDFS-310 Family Stress, Coping and Adaptation

HDFS-310 Family Stress, Coping and Adaptation

(1 cr.)

Repeatable for Credit: No

Impact of family development and stress on individual and family well-being.

HDFS-313 Parent Education/Involvement

HDFS-313 Parent Education/Involvement

(2 cr.)

Repeatable for Credit: No

Parent groups: training of leaders, survey of literature. Practicum with parent groups.

HDFS-320 Divorced, Single Parent and Remarried Family

HDFS-320 Divorced, Single Parent and Remarried Family

(2 cr.)

Repeatable for Credit: No

Trends and issues in divorce, single parenting and remarriage related to effects on adults, children and society.

HDFS-325 Human Development: Middle Childhood and Adolescence

HDFS-325 Human Development: Middle Childhood and Adolescence

(3 cr.)

Repeatable for Credit: No

Empirical study of physical, intellectual, social and emotional development of children.

HDFS-330 Human Development: Adolescence/Emerging Adulthood

HDFS-330 Human Development: Adolescence/Emerging Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of adolescence through emerging adulthood. Theories of identity development, individuation, and differentiation of self from others. Social development focusing on important relationship transitions.

Prerequisite: take HDFS 124

HDFS-332 Death and Bereavement

HDFS-332 Death and Bereavement

(3 cr.)

Repeatable for Credit: No

Significance of death and bereavement for the American culture, individual and family. Special consideration given to major tasks of grieving for children and adults.

HDFS-335 Critical Cultural Competence

HDFS-335 Critical Cultural Competence

(3 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

Critical cultural competence and application to individuals and families. Systems of privilege and oppression. How socio-historical contexts shape interpersonal dynamics. Self-examination of cultural assumptions. Practice in critically thinking about difference and how to connect across differences.

HDFS-336 Practice in Critical Cultural Competence

HDFS-336 Practice in Critical Cultural Competence

(1 cr.)

Repeatable for Credit: No

Practice of critical cultural competence skills in settings serving individuals and families. Working with and connecting across categories of difference to increase awareness, sensitivity, and understanding.

Prerequisite: HDFS-335

HDFS-340 Human Development: Middle to Late Adulthood

HDFS-340 Human Development: Middle to Late Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of middle and late adulthood. Analysis of intragenerational and intergenerational relationships. Critical evaluation of societal impacts on adults and their families. Develop a sensitive and informed approach to effectively working with midlife and older adults.

Prerequisite: take HDFS 124 and HDFS 330

HDFS-341 Family Caregiving to Dependent Elders

HDFS-341 Family Caregiving to Dependent Elders

(1 cr.)

Repeatable for Credit: No

Unique challenges confronting adult children who provide care to aging parents. Government, agency, workplace and family policies and practices promoting and/or undermining family strengths and well-being.

HDFS-345 Health Care Dilemmas & Decisions for Families

HDFS-345 Health Care Dilemmas & Decisions for Families

(3 cr.)

Repeatable for Credit: No

Bioethical issues facing U.S. families. Selected issues provoke deep and troubling questions that will be addressed from a multidisciplinary perspective through readings, student-led discussion, lectures, and case reviews.

HDFS-349 Cooperative Education Experience

HDFS-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved business/industry position related to the student's major. Selection by application and interview.

Instructor's Consent Required

HDFS-350 Women's Relationships in Later Life

HDFS-350 Women's Relationships in Later Life

(3 cr.)

Repeatable for Credit: No

Women's experiences in later life. Impact of race, culture, class, sexual orientation upon aging. Images of aging women in contemporary literature and the media. Older women's experiences in familial relationships and friendships.

Must be Junior level or higher

HDFS-352 Sexual and Gender Identities in Families and Society

HDFS-352 Sexual and Gender Identities in Families and Society

(3 cr.)

Repeatable for Credit: No

Introductory understanding of sexual and gender identities in families and society.

HDFS-353 Child Life Theory and Practice

HDFS-353 Child Life Theory and Practice

(3 cr.)

Theories and skills for effective child life practice in healthcare settings. Historical development of child life programming, impact of illness, injury and healthcare on a child and family, assessment, coping, preparation, therapeutic play, the therapeutic relationship and

family-centered care.

HDFS-364 Sibling Relationships

HDFS-364 Sibling Relationships

(3 cr.)

Repeatable for Credit: No

Seminar focusing on sibling relationships across the life course, examining the issues, processes and dynamics affecting these bonds.

Must be Junior level or higher

HDFS-365 Family Resource Management

HDFS-365 Family Resource Management

(3 cr.)

Repeatable for Credit: No

Individual and family use of resources to meet needs and attain goals. Critical evaluation of resource disparities and how families are impacted. Develop approach to working with diverse families and external systems on issues of resource management.

HDFS-375 Grantsmanship for Nonprofits

HDFS-375 Grantsmanship for Nonprofits

(1-2 cr.)

Repeatable for Credit: No

Explore the availability of foundation grant money for nonprofit organizations. Designed to give the beginning grant writer an overview of grant purposes, foundation funding sources, proposal development and writing.

HDFS-380 Case Management for Human Services

HDFS-380 Case Management for Human Services

(3 cr.)

Repeatable for Credit: No

Human services is generic for professional and paraprofessional jobs in diverse settings. Primary purpose of human services is to assist individuals and communities to function as effectively as possible. Introduction to historical context, theoretical perspectives, basic knowledge and beginning skills in case management.

Prerequisite: take HDFS-225

HDFS-395 Special Topics in Human Development

HDFS-395 Special Topics in Human Development

(1-2 cr.)

Repeatable for Credit: Yes

Special topics in human development; repeatable for different topics.
Must be Junior level or higher

HDFS-399 Independent Study

HDFS-399 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

HDFS-400 Special Topics in HDFS:

HDFS-400 Special Topics in HDFS:

(3 cr.)
Repeatable for Credit: No
History, development, theory, and types of family life education programs. Knowledge and practical skills required to identify needs, design programs, teach family life education, facilitate groups, and evaluate programs in a variety of settings with a range of populations. Course culminates with a service-learning study abroad experience in Ireland.

HDFS-401 Autism and Family Life: Living with the Spectrum

HDFS-401 Autism and Family Life: Living with the Spectrum

(1 cr.)
Unique challenges, rewards, and family dynamics experienced by families impacted by autism spectrum disorder. Theoretical frameworks, life course and cultural considerations, ethical and policy issues, and implications for family practitioners.

HDFS-410 Families in an Electronic World

HDFS-410 Families in an Electronic World

(3 cr.)
Repeatable for Credit: No
Effects of changes in communication technologies on family life over the past several decades. Impacts of television, computers, cell phones, and other communication technologies on daily life and family dynamics. Social issues stemming from technological advances and affecting family life including social networking, internet gaming, cybersex, cyber bullying, and the digital divide.

HDFS-420 Family Research and Methodology

HDFS-420 Family Research and Methodology

(3 cr.)

Repeatable for Credit: No

Analysis of family theory, research methodology and selected topics in family relations.

Prerequisites: take HDFS-115 and HDFS-215

HDFS-423 Spirituality Across the Lifespan

HDFS-423 Spirituality Across the Lifespan

(2 cr.)

Repeatable for Credit: No

Seminar discussion of autobiographical and biographical accounts of individual's spiritual experiences, beliefs and spiritual development over the life cycle.

Must be Junior level or higher

HDFS-426 Autism in South Africa

HDFS-426 Autism in South Africa

(3 cr.)

Repeatable for Credit: No

Connects course content with a service learning experience. Work with community partners that support individuals and families affected by autism spectrum disorder in South Africa. Interpersonal communication and relationship skills with diverse populations; cross-cultural awareness and responsiveness around the role and meaning of autism in family life.

Prerequisite: take HDFS 401

HDFS-426 Comparative Family Agencies - Ireland and U.S.

HDFS-426 Comparative Family Agencies - Ireland and U.S.

(3 cr.)

Repeatable for Credit: No

A study abroad course designed to compare child and family agencies, human services providers, and mental health providers in Ireland with those in the U.S. Travel in Ireland, includes cultural immersion experiences.

HDFS-426 Special Topics in the Study of Family Life

HDFS-426 Special Topics in the Study of Family Life

(1-3 cr.)

Repeatable for Credit: No

Family life programs and literature; individual study of problems of personal or professional interest.

HDFS-442 Geriatric Functional Assessment

HDFS-442 Geriatric Functional Assessment

(4 cr.)

Repeatable for Credit: No

Multi-disciplinary assessment applied to elderly at critical transition points. Assessment of social and economic status, functional status (activities of daily living and instrumental activities of daily living), mental health, and environmental characteristics. Explore various measurement instruments. Background check required.

Prerequisite: take HDFS-340

HDFS-449 Cooperative Education Experience

HDFS-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved business/industry position related to the student's major. Selection by application and interview.

Instructor's Consent Required

HDFS-450 Family Policy

HDFS-450 Family Policy

(3 cr.)

Repeatable for Credit: No

Family policy and family perspective in policymaking. Reciprocal relationship between families and public policies. Family policy formation, implementation, evaluation and advocacy.

Prerequisites: take HDFS-115 and HDFS-215

HDFS-454 Suicide and the Family: Family and Community Intervention

HDFS-454 Suicide and the Family: Family and Community Intervention

(1 cr.)

Repeatable for Credit: No

Analysis of attempted and completed suicides from an interdisciplinary perspective. Forms of intervention, with emphasis upon family therapy, are compared, contrasted, and evaluated for suitability.

Prerequisite: take HDFS-215

HDFS-456 Abuse and the Family

HDFS-456 Abuse and the Family

(3 cr.)

Repeatable for Credit: No

Definition and analysis of types of abuse in family context. Interrelationship of victims, perpetrators, other family members, helping professionals, social context. Risk factors, effects, reporting and recovery.

Prerequisites: take HDFS-115 and HDFS-215

HDFS-460 Religious Diversity and the Workplace

HDFS-460 Religious Diversity and the Workplace

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Major world religions and some smaller religions, practices, similarities and differences within and between religions; implications of religious practices and beliefs for workplace settings

HDFS-490 Professional Issues: Human Development and Family Studies

HDFS-490 Professional Issues: Human Development and Family Studies

(3 cr.)

Repeatable for Credit: No

Issues related to professional development in areas of human development and family studies.

Prerequisites: For HDFS majors only. Must have 2.5 GPA in professional core.

HDFS-491 Internship in Human Development and Family Studies

HDFS-491 Internship in Human Development and Family Studies

(4-8 cr.)

Repeatable for Credit: Yes

Internship experience in human development and family studies. Student will be placed in community agency or organization and supervised by site supervisor.

Department Consent

Prerequisite: take HDFS-490; must have 2.5 GPA in the professional core and program director approval

HDFS-497 Field Experience in Human Development and Family Studies

HDFS-497 Field Experience in Human Development and Family Studies

(2 cr.)

Repeatable for Credit: No

Field experience related to human development and family studies skills and knowledge used in teaching wage-earning courses at secondary level.

Department Consent

HDFS-499 Independent Study

HDFS-499 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

Industrial Management

INMGT-100 Introduction to Online Management Program

INMGT-100 Introduction to Online Management Program

(2 cr.)
Repeatable for Credit: No
This course provides an acclimatization to the Bachelor of Science Degree in Management program, orientation to online learning, establish professional goals, grasp concepts of leadership and management, use an ethical model for decision making, track prior learning, self-management, and produce a program plan schedule leading to graduation.
For B.S. in Management majors only.

INMGT-120 Quality Concepts

INMGT-120 Quality Concepts

(3 cr.)
Repeatable for Credit: No
An introduction to quality, quality systems, and quality management through a survey of the various philosophies, principles, techniques and procedures used by various organizations and/or managers to assure customer satisfaction of product and/or service.

INMGT-149 Cooperative Education Experience

INMGT-149 Cooperative Education Experience

(1-8 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.
Department Consent

INMGT-200 Production and Operations Management

INMGT-200 Production and Operations Management

(3 cr.)
Repeatable for Credit: No
A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.
Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-210 Service Operations Management

INMGT-210 Service Operations Management

(3 cr.)

Repeatable for Credit: No

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

INMGT-220 Service Quality Assurance

INMGT-220 Service Quality Assurance

(3 cr.)

Repeatable for Credit: No

Determination of goals, management systems, and implementation methodologies for all aspects of service organization quality assurance.

INMGT-249 Cooperative Education Experience

INMGT-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

INMGT-296 Quantitative Methods in Production Operations Management

INMGT-296 Quantitative Methods in Production Operations Management

(3 cr.)

Repeatable for Credit: No

Necessary skills for planning and controlling production and operations. Various operations management and their practical implementation issues in product and service realization and logistics will be introduced.

Prerequisite(s): take STAT 130 or STAT 320 or STAT 330

INMGT-298 Field Experience

INMGT-298 Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand business and industrial concepts and practices.

Department Consent

INMGT-299 Independent Study

INMGT-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

INMGT-300 Engineering Economy

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-301 Seminar

INMGT-301 Seminar

(1-2 cr.)

Repeatable for Credit: Yes

(Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled.

INMGT-302 Seminar

INMGT-302 Seminar

(1 cr.)

Repeatable for Credit: No

Elements of time management, strategies and techniques in industrial and business environments. Analysis of time use by all levels of management.

INMGT-303 Introduction to Leadership Praxis

INMGT-303 Introduction to Leadership Praxis

(1 cr.)

Repeatable for Credit: No

Assessment of leadership skills/characteristics, leading to understanding of integrative leadership, and including increased capacity for civic engagement, social justice action, and ethical decision making.

INMGT-305 Resource Planning and Materials Management

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

INMGT-314 Enterprise Resource Planning Practicum

INMGT-314 Enterprise Resource Planning Practicum

(3 cr.)

Repeatable for Credit: No

Practice of the functions within an enterprise, through the Enterprise Resource Planning System. Systems, Applications, and Products (SAP) virtual enterprise platform used to demonstrate how the physical work flow, electronic information exchange and financial flow are integrated into an enterprise.

Prerequisites: take INMGT 200 or INMGT 210 or BUMIS 333 or ICT 305

INMGT-320 Quality Tools

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-325 Quality Management

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-335 Lean Manufacturing Systems

INMGT-335 Lean Manufacturing Systems

(4 cr.)

Global Perspective

Repeatable for Credit: No

An introduction to production/operations management and lean manufacturing system design for engineers. Emphasis is given to analysis and design of production systems, facility layout, and globalization.

Prerequisite: take STAT-330

INMGT-349 Cooperative Education Experience

INMGT-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

INMGT-350 Facilities Planning

INMGT-350 Facilities Planning

(3 cr.)

Repeatable for Credit: No

Study of facilities location, structure, and planning for efficient layout and material handling systems.

Prerequisite: take INMGT 200

INMGT-365 Project Management

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-396 SHRM Essentials of Human Resources

INMGT-396 SHRM Essentials of Human Resources

(1 cr.)

Repeatable for Credit: No

Introductory course that provides a complete overview of HR roles and responsibilities. Foundational HR knowledge and competencies based on the SHRM body of knowledge: Human Resources, Talent Acquisition, Total Rewards, Learning and Development, Performance Management, and Employment Law.

INMGT-396 Virtual Teams and Negotiation

INMGT-396 Virtual Teams and Negotiation

(3 cr.)

Repeatable for Credit: No

Advancement of leadership skills. Adaption to teamwork processes for the facilitation and performance of virtual teams, infusion of cross-cultural practices, attention to communication, relationships, problem solving and shared leadership. Negotiation and conflict resolution theories, stages of negotiation and interventions that support communication throughout the negotiation process.

Prerequisite(s): must be Sophomore standing or higher

INMGT-397 Field Experience

INMGT-397 Field Experience

(1 cr.)

Repeatable for Credit: No

Department Consent

INMGT-398 Field Experience

INMGT-398 Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand business and industrial concepts and practices.

Department Consent

INMGT-399 Independent Study

INMGT-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

INMGT-400 Organizational Leadership

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-403 Leadership Praxis

INMGT-403 Leadership Praxis

(1 cr.)

Repeatable for Credit: No

Synthesis of leadership skills/characteristics, leading to understanding of integrative leadership, and including increased capacity for civic engagement, social justice action, and ethical decision making.

Prerequisites: Take INMGT-303

INMGT-405 Resource Planning and Materials Management Practicum

INMGT-405 Resource Planning and Materials Management Practicum

(3 cr.)

Repeatable for Credit: No

Provides students with specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. This course focuses on the first two of the five required APICS exams that lead to certification as a Certified in Production and Inventory Manager (CPIM).

Prerequisite: take INMGT-305

INMGT-406 Resource Planning and Materials Management Practicum II

INMGT-406 Resource Planning and Materials Management Practicum II

(3 cr.)

Repeatable for Credit: No

Specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. This course focuses on the content included in the Execution and Control of Operations and Strategic Management APICS exams that lead to certification as a CPIM.

Prerequisite: take INMGT 305

INMGT-410 Six Sigma Quality Improvement Methods

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-414 Leadership Practicum

INMGT-414 Leadership Practicum

(1 cr.)

Repeatable for Credit: No

Practical application of leadership principles in an enterprise. Instructor's consent

Prerequisites: Must be concurrently enrolled in INMGT-314 and obtain consent of instructor.

INMGT-415 Inclusivity in Leadership

INMGT-415 Inclusivity in Leadership

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

An examination of leadership dynamics for but not limited to women, people of color and other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations.

Prerequisites: take SOC-110 and either INMGT-400 or BUMGT-304

INMGT-416 People Process Culture

INMGT-416 People Process Culture

(3 cr.)

Repeatable for Credit: No

High performing people process culture organizations; integration of sociology, applied psychology, and organization behavior subject matter areas.

Prerequisite: take INMGT 400

INMGT-420 Quality Assurance-Practicum

INMGT-420 Quality Assurance-Practicum

(3 cr.)

Repeatable for Credit: No

Application of principles and techniques learned in INMGT-320, as part of Professional Semester/ Manufacturing Laboratory.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-422 Quality Engineering

INMGT-422 Quality Engineering

(3 cr.)

Repeatable for Credit: No

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

STAT-330 or higher level Statistics

INMGT-425 Planned Experimentation for Quality Improvement

INMGT-425 Planned Experimentation for Quality

Improvement

(3 cr.)

Repeatable for Credit: No

Quality improvement through planned experimentation that focuses on product realization activities which consist of new product design and formulation, manufacturing process development and improvement.

Prerequisite: take INMGT-422

INMGT-430 Employee Involvement: Work Teams

INMGT-430 Employee Involvement: Work Teams

(2 cr.)

Repeatable for Credit: No

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods.

Must be Senior level or higher

INMGT-435 Facilities and Material Handling Systems Design

INMGT-435 Facilities and Material Handling Systems Design

(2 cr.)

Repeatable for Credit: No

Lean manufacturing facility design for engineers. Emphasis is given to product flow data collection and analysis, design of production systems, material handling systems, facility layout, and globalization.

INMGT-440 Lean Enterprise

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

INMGT-445 Business Process Management

INMGT-445 Business Process Management

(3 cr.)

Repeatable for Credit: No

Holistic understanding of the Business Process Management (BPM) discipline required to model, analyze, design, manage, and improve an organization's enterprise-wide processes. Includes process-based continuous improvements to achieve organizational

strategies and objectives.

INMGT-449 Cooperative Education Experience

INMGT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

INMGT-450 Maintenance Management

INMGT-450 Maintenance Management

(3 cr.)

Repeatable for Credit: No

Organization and management of fixed asset maintenance systems including organizational structures, work control systems, computerized maintenance management systems, preventative and predictive maintenance, energy systems analysis and human resource utilization.

INMGT-460 Management Capstone

INMGT-460 Management Capstone

(3 cr.)

Repeatable for Credit: Yes

This course is intended to integrate the knowledge and skills learned from BS in Management program into a strategic business model generation and development of professional portfolio. Emphasis is placed on strengthening self-awareness and professional performance to grow future management/leadership capacity leading to transformation of career-long performance.

Prerequisite: Must be Senior level or higher

INMGT-462 Global Manufacturing Study Tour

INMGT-462 Global Manufacturing Study Tour

(2-3 cr.)

Repeatable for Credit: No

Visit global sites to understand the current state of product design, manufacturing, and distribution in both developed and developing countries. Learn how to develop supplier, manufacturing, and distribution systems in a global setting.

Must be Senior level or higher

INMGT-475 Advanced Project Management

INMGT-475 Advanced Project Management

(3 cr.)

Repeatable for Credit: No

Advanced planning, control, and leadership of technical projects and programs. Topics covered include: project and program justification, project management maturity and methods, multiple project or portfolio management, project management in multinational cultures, virtual project teams, requirements definition, and outsourcing.

Prerequisites: take INMGT-365 or AEC-471. Senior standing.

INMGT-482 Business Analytics

INMGT-482 Business Analytics

(3 cr.)

Repeatable for Credit: No

Business needs and technology trends in analytics. Practical application of business analytic tools to determine key business performance indicators and use of these indicators to drive business and operations management decisions and actions.

Prerequisites: INMGT 314 and STAT 130 or MATH 123

INMGT-486 Project Management Practicum

INMGT-486 Project Management Practicum

(3 cr.)

Repeatable for Credit: No

Capstone experience. Project management applications. Students will take the Certified Associate in Project Management (CAPM) exam. Students apply project management tools and techniques to manage practical projects.

INMGT-489 Business and Industrial Intern

INMGT-489 Business and Industrial Intern

(1-8 cr.)

Repeatable for Credit: Yes

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session.

Department Consent

Must be Junior level or higher

INMGT-496 Business Process Management

INMGT-496 Business Process Management

(3 cr.)

Repeatable for Credit: No

Understanding of process-based project implementation required to define, implement, manage, and improve processes for businesses, process projects inside organizations, and enterprise-wide processes. Understanding of business processes in practice and how to complete process-based project improvements to achieve organizational strategies and objectives.

Prerequisite: take INMGT 365

INMGT-496 Innovation Management

INMGT-496 Innovation Management

(1 cr.)

Repeatable for Credit: No

Self-paced study on innovation management to determine how to commercialize the student's new product innovation. Topics include intellectual property, market research, prototyping, and business plans.

INMGT-497 Field Experience

INMGT-497 Field Experience

(1 cr.)

Repeatable for Credit: No

Department Consent

INMGT-498 Field Experience

INMGT-498 Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand business and industrial concepts and practices.

Department Consent

INMGT-499 Independent Study

INMGT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

INMGT-622 Quality Engineering

INMGT-622 Quality Engineering

(3 cr.)

Repeatable for Credit: No

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

Information and Communication Technologies

ICT-100 Introduction to Information and Communication Technologies

ICT-100 Introduction to Information and Communication Technologies

(1 cr.)

Repeatable for Credit: No

Survey of changes, challenges, opportunities in business and industry for the information and communication technologies professional. Program advisement, course sequence, career pathways and job opportunities.

B.S. in Information and Communication Technologies majors only

ICT-103 Information and Communication Technologies

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

ICT-215 Cybertechnology Ethics

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

ICT-255 Basic Data Concepts

ICT-255 Basic Data Concepts

(3 cr.)

Repeatable for Credit: No

Database application exploration in an enterprise context with basic data concepts, principles and guidelines of relational database design, common entity relationships, basic queries, and security and data integrity.

ICT-303 Information & Communication Technologies Essentials

ICT-303 Information & Communication Technologies Essentials

(3 cr.)

Repeatable for Credit: No

Components of computer hardware and operating systems, assembling a computer system, installing an operating system in a computer, and troubleshooting a computer using system tools and diagnostic software.

Prerequisite: take ICT-103

ICT-305 Information Systems for Enterprise

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

ICT-309 Collaborative Computing

ICT-309 Collaborative Computing

(3 cr.)

Repeatable for Credit: No

History, application, design and analysis of collaborative computing.

Prerequisite: take ICT-103

ICT-349 Cooperative Education Experience

ICT-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ICT-355 ICT Systems Analysis and Design

ICT-355 ICT Systems Analysis and Design

(3 cr.)

Repeatable for Credit: No

Information and communication technologies (ICT) systems analysis and design methods supporting contemporary enterprise.

Includes roles, relationship to systems development life cycle (SDLC) reflecting contemporary ICT systems analysis and design practice, methodologies and ICT project management.

Prerequisites: take ICT 255 and ICT 305

ICT-370 Computer-Assisted Interactive Video

ICT-370 Computer-Assisted Interactive Video

(3 cr.)

Repeatable for Credit: No

Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems.

Instructor's Consent Required

ICT-400 Workshop

ICT-400 Workshop

(1-3 cr.)

Repeatable for Credit: Yes

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop.

ICT-401 Information Technology Policy and Audit

ICT-401 Information Technology Policy and Audit

(3 cr.)

Repeatable for Credit: No

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take ICT-305 and BUACT-206

ICT-405 Enterprise Technology Seminar

ICT-405 Enterprise Technology Seminar

(3 cr.)

Repeatable for Credit: No

Trends in enterprise technology, including: systematic development processes to solve business problems and support business processes, identification and use of contemporary enterprise technology solutions, sources of enterprise technology support, training and information and enterprise technology credentialing and career opportunities.

Prerequisite: take ICT 355

ICT-449 Cooperative Education Experience

ICT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ICT-498 Field Experience

ICT-498 Field Experience

(1-3 cr.)
Repeatable for Credit: No

ICT-499 Independent Study

ICT-499 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

Information and Technology Management

ITM-149 Cooperative Education Experience

ITM-149 Cooperative Education Experience

(1-8 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.
Department Consent

ITM-249 Cooperative Education Experience

ITM-249 Cooperative Education Experience

(1-8 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.
Department Consent

ITM-300 ITM Workshop: VMware Install, Configure, and Manage

ITM-300 ITM Workshop: VMware Install, Configure, and Manage

(3 cr.)
Repeatable for Credit: No
Installing, configuring, and managing VMware vSphere, including VMware, vSphere, ESXi, and VMware VCenter Server.
Prerequisite: take CNIT-133

ITM-300 Workshop

ITM-300 Workshop

(1-3 cr.)

Repeatable for Credit: Yes

Special topics in graphic communications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop.

ITM-300 Workshop: Voice Mail & Unified Messaging

ITM-300 Workshop: Voice Mail & Unified Messaging

(3 cr.)

Repeatable for Credit: No

Cisco Unity Connection architecture, components, functionality, and features. Implement and administer Cisco Unity Connection to create a unified workspace encompassing applications, devices, networks, and operating systems. Explore the various administration tools and reports available in Cisco Unity Connection.

ITM-301 Linux Systems & Network Administration

ITM-301 Linux Systems & Network Administration

(3 cr.)

Repeatable for Credit: No

A technical overview of the Linux operating system, including: hands-on experience with commands, files, services and tools. Topics include basic Linux commands, files and directories, text editing and scripting; installation and maintenance of Linux servers in the corporate world; installation and configuration of services and applications of Linux servers.

No

Prerequisite: take either CNIT 133 OR CS 144

ITM-308 Convergence Technologies

ITM-308 Convergence Technologies

(3 cr.)

Repeatable for Credit: No

Creation of single networks that support many different types of traffic: data, audio, video, and interactive multimedia. Planning physical design and installation of a telephone and converged system, requirements of a converged network, and what makes convergence.

Prerequisite: take ICT-103 and CNIT-134

ITM-349 Cooperative Education Experience

ITM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ITM-399 Independent Study

ITM-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ITM-442 Remote Access Networks

ITM-442 Remote Access Networks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build remote access networks to interconnect central sites to branch offices and home offices. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT-441

ITM-445 Internetwork Design

ITM-445 Internetwork Design

(3 cr.)

Repeatable for Credit: No

Specialization course for the Cisco CCNP professional certification. Students will learn to design internetwork solutions. Students are required to pass the associated Cisco certification examination.

Prerequisites: take CNIT-441, ITM-442, and CNIT-443

ITM-449 Cooperative Education Experience

ITM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ITM-499 Independent Study

ITM-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Literature

LIT-203 American Poets

LIT-203 American Poets

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Poetry of American writers: how culture, race, ethnicity, and nature shape American poetry.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-205 The Short Story

LIT-205 The Short Story

(3 cr.)

Arts and Humanities - Literature, Cross-disciplinary Issues

Repeatable for Credit: No

Style, structure, history and development of short story as a literary form.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-208 Fiction Into Film

LIT-208 Fiction Into Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of film adaptations. Special attention is given to the evolving depiction of non-dominant racial and ethnic cultural groups in literature and film.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-230 American Cinema

LIT-230 American Cinema

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of American cinematic development. Special attention is given to the evolving depiction of non-dominant cultural groups and contemporary issues. Examination of these issues allows students to actively discover, assess, and execute the creative problem-solving needed to be fully engaged with contemporary issues.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-255 Recent World Literature

LIT-255 Recent World Literature

(3 cr.)

Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Selected readings in Contemporary Literature in Translation.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-260 Modern American Literature

LIT-260 Modern American Literature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Selected poetry, prose and drama produced since World War I.

Prerequisite: take either ENGL 101 or ENGL 111

LIT-265 Literature and Economics

LIT-265 Literature and Economics

(3 cr.)

Arts and Humanities - Literature, Cross-disciplinary Issues

Repeatable for Credit: No

Exploration of economic concepts and principles in literary works from a variety of periods. Application of literary and economic theory to novel-length texts.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-272 Women Writers

LIT-272 Women Writers

(3 cr.)

Racial and Ethnic Studies Category B, Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Study of representative American and international women writers within the tradition of feminist literary theory.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-273 American Multicultural Literature

LIT-273 American Multicultural Literature

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature

Repeatable for Credit: No

American multicultural literature, focusing on Hispanic, African, Asian, and Native American writers.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-275 Environmental Literature

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-280 Best-Sellers

LIT-280 Best-Sellers

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Fiction and non-fiction best-sellers: expression of an impact on popular culture.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-281 Recent American Literature: Culture, Race, Ethnicity and Nature

LIT-281 Recent American Literature: Culture, Race, Ethnicity and Nature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

How culture, race ethnicity, and nature shape American literature.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-285 Science Fiction

LIT-285 Science Fiction

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey of popular and classic science fiction.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-299 Independent Study

LIT-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-300 Children's Literature

LIT-300 Children's Literature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey and ways of presenting literature for children from infancy to age 12.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-302 Topics in Literature

LIT-302 Topics in Literature

(1 cr.)

Arts and Humanities - Literature

Repeatable for Credit: Yes

Intensive analysis of selected authors and literary works with emphasis on discourse analysis in group and workshop settings.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-303 Coming of Age in Literature and Film

LIT-303 Coming of Age in Literature and Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Exploration of literary and filmic works that treat age, coming of age, aging, and old age. Literary and critical analysis using age studies in literature.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-303 Coming of Age in Literature and Film

LIT-303 Coming of Age in Literature and Film

(3 cr.)

Repeatable for Credit: No

Exploration of literary and filmic works that treat age, coming of age, aging, and old age in racial and cultural context. Literary and critical analysis using age studies in literature and film.

Prerequisite: take either ENGL 101 or ENGL 111

LIT-304 American Folklore

LIT-304 American Folklore

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Analysis and interpretation of stories, songs, jokes, and material culture of families, work groups, ethnic groups, and religious groups.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-306 Shakespeare

LIT-306 Shakespeare

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Several representative plays and selected criticism.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-307 After 9/11: American Literature of Public Crisis and Trauma

LIT-307 After 9/11: American Literature of Public Crisis and Trauma

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and cultural analysis of 9/11 and its aftermath in American and global contexts. Exploration of new racial formations, discourses of citizenship in the wake of trauma.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-308 Alice Walker: Beyond Purple

LIT-308 Alice Walker: Beyond Purple

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature, Cross-disciplinary Issues

Repeatable for Credit: No

Explore Alice Walker's short stories, essays, children's literature, and novels. Discuss Walker's international reputation as a contemporary feminist African-American author and activist. Consider Walker's writing in its social and historical contexts, particularly in light of the civil rights, anti-Vietnam war, and women's liberation movements, and connect those themes to contemporary issues.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-309 Multicultural Shakespeare: Plays and Replays

LIT-309 Multicultural Shakespeare: Plays and Replays

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Analysis of Shakespeare's plays and their relevance to contemporary debates on race, ethnicity, diversity in a globalized world.

Adaptations of Shakespeare's plays by contemporary multicultural authors, filmmakers, and artists.

Prerequisites: take ENGL 101 or ENGL 111

LIT-350 Modern British Literature

LIT-350 Modern British Literature

(3 cr.)

Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Selected poetry, prose, and fiction produced since World War I.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-396 Romantic Poets

LIT-396 Romantic Poets

(3 cr.)

Humanities and the Arts - Literature

Repeatable for Credit: No

Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-399 Independent Study

LIT-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-450 Experience in China: Modern East Asian Literature and Cinema

LIT-450 Experience in China: Modern East Asian Literature and Cinema

(3 cr.)

Global Perspective

Repeatable for Credit: No

Through the Experience China Study Abroad Program, this course introduces students to the cultural, social, political, and aesthetic developments in Modern East Asia through the study of major works of 20th and 21st century Chinese, Japanese, and Korean Literature and film. Includes study of memoirs, writings of political theory, sociology, religion, and history.

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-450 Studies in Literature: Alice Walker: Beyond Purple

LIT-450 Studies in Literature: Alice Walker: Beyond Purple

(2-3 cr.)

Humanities and the Arts - Literature

Repeatable for Credit: Yes

Study of Alice Walker's short stories, essays, children's literature, poetry, and novels, making connections with the social and historical contexts, particularly the civil rights, anti-Viet Nam war, and women's liberation movements.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

LIT-450 Studies in Literature: Women's Autobiographical Writing: Private Lives, Public Stories

LIT-450 Studies in Literature: Women's Autobiographical Writing: Private Lives, Public Stories

(3 cr.)

Humanities and the Arts - Literature

Repeatable for Credit: Yes

Women's Autobiographical Writing: Private Lives, Public Stories: The changing contexts of women's lives and how women's actions have shaped and responded to those contexts as seen through women's autobiography. Rhetorical situations and consequences of various types of women's autobiography including autobiography using new media such as blogging.

ENGL-102 or ENGL-112

LIT-450A Studies in Literature (Theme, Author, Genre)

LIT-450A Studies in Literature (Theme, Author, Genre)

(2-3 cr.)

Repeatable for Credit: No

A study of a selected writer's work or of literature focusing on a significant theme of literature or of a genre not offered as a distinct course of similar duration within the departmental curriculum.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-499 Independent Study

LIT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

Logic

LOG-250 Critical Thinking

LOG-250 Critical Thinking

(3 cr.)

Repeatable for Credit: No

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies.

LOG-301 Introduction to Logical Thinking

LOG-301 Introduction to Logical Thinking

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem-solving strategies based on induction and on categorical and propositional deduction.

LOG-305 Symbolic Logic

LOG-305 Symbolic Logic

(3 cr.)

Repeatable for Credit: No

Propositional and first-order quantificational languages and deductive systems, proof construction, introduction to soundness and completeness, application to natural language reasoning and computability.

LOG-499 Independent Study

LOG-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Manufacturing Engineering

MFGE-349 Cooperative Education Experience

MFGE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MFGE-351 Manufacturing Process Engineering I

MFGE-351 Manufacturing Process Engineering I

(3 cr.)

Repeatable for Credit: No

Engineering analysis and control of machining and metal forming processes. Design and manufacturing process development for machining and/or metal forming. Implement design tools to meet design requirements and create effective manufacturing processes.

Prerequisites: take CHEM-341, ENGR-294, ETECH-252, ENGR-275, and STAT-330

MFGE-352 Manufacturing Process Engineering II

MFGE-352 Manufacturing Process Engineering II

(3 cr.)

Repeatable for Credit: No

Analysis of polymer, metal, and ceramic behavior in processing, through the understanding of structure-process-property relationships. Mathematical modeling of process design, incorporating heat transfer and non-Newtonian fluid mechanics.

Prerequisites: take ETECH-251, ETECH-253, ENGR-294, ENGR 391, and STAT-330

MFGE-399 Independent Study

MFGE-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

MFGE-405 Capstone I: Concurrent Design

MFGE-405 Capstone I: Concurrent Design

(3 cr.)

Repeatable for Credit: No

Concurrent product design and development. Concept of design; brainstorming, problem solving, and creativity methods. Engineering methods. Design analysis, solid modeling, finite element analysis and information sources. Development of teamwork and communications skills. Consideration of cell needs and limitations.

Prerequisites or Corequisites: take MFGE-351, MFGE-352, and MFGE-441

MFGE-410 Capstone II: Manufacturing System Design

MFGE-410 Capstone II: Manufacturing System Design

(3 cr.)

Repeatable for Credit: No

Dedicated and flexible manufacturing systems through the design, building and testing of a flexible manufacturing cell that produces a discrete family of parts, design of part transfer, tooling, sensing, production control and integrated inspection systems will be emphasized.

Prerequisite: Take MFGE-405; Prerequisites or corequisites: ENGR-325, ENGR-363, and ENGR-415

MFGE-440 Manufacturing System Design and Simulation

MFGE-440 Manufacturing System Design and Simulation

(3 cr.)

Repeatable for Credit: No

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical

reports summarizing projects.

Prerequisite or Corequisite: take INMGT-335

MFGE-441 Design Of Jigs, Fixtures, And Tooling

MFGE-441 Design Of Jigs, Fixtures, And Tooling

(3 cr.)

Repeatable for Credit: No

Design of tooling used for machining, locating and transferring multiple parts for fixed and flexible manufacturing. Design, setup and development of tooling for robots, computer numerical control machines and other production equipment. Transfer line tooling.

Prerequisites: ETECH-252, ETECH-210, and ENGR-294

MFGE-449 Cooperative Education Experience

MFGE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MFGE-465 Reliability Engineering

MFGE-465 Reliability Engineering

(3 cr.)

Repeatable for Credit: No

A practical introduction to reliability engineering with the opportunity for application. Topics covered include reliability need, calculations, prediction and modeling, and test design.

Prerequisite: take STAT-330

MFGE-499 Independent Study

MFGE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

MFGE-640 Manufacturing System Design And Simulation

MFGE-640 Manufacturing System Design And Simulation

3 cr.

Repeatable for Credit: No

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical reports summarizing projects.

Marketing and Business Education

MBE-101 Introduction to Marketing and Business Education

MBE-101 Introduction to Marketing and Business Education

(3 cr.)

Repeatable for Credit: No

Becoming a teacher in the disciplines of Marketing and Business Education (MBE) within K-12 schools, technical college, community colleges, and adult programs.

MBE-149 Cooperative Education Experience

MBE-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved area of marketing education. May be recurring. Supervised during work/study periods. Recurring experiences would be designed to build upon previous experiences in the course.

Department Consent

MBE-202 Supervision of MBE Career & Technical Student Organizations

MBE-202 Supervision of MBE Career & Technical Student Organizations

(3 cr.)

Repeatable for Credit: No

Competencies needed to become a successful advisor, integrate a marketing and/or business education career and technical student organization into curriculum with a focus on the high school division of BPA, FBLA, and DECA.

MBE-249 Cooperative Education Experience

MBE-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved area of marketing education. May be recurring. Supervised during work/study periods. Recurring experiences would be designed to build upon previous experiences in the course.

MBE-300 Introduction to Teaching Marketing and Business Education

MBE-300 Introduction to Teaching Marketing and Business Education

(3 cr.)

Repeatable for Credit: No

A study of becoming a teacher in the disciplines of Marketing and Business Education with a deep focus on their related career and technical student organizations.

MBE-301 Marketing and Business Education Methods

MBE-301 Marketing and Business Education Methods

(3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching in career and technical Business and Marketing subjects.

Prerequisites: MBE 101 and Passed Background Check

MBE-311 Marketing and Business Education Project Method

MBE-311 Marketing and Business Education Project Method

(2 cr.)

Repeatable for Credit: No

Project method of instruction in a career and technical education program. Concurrent enrollment in MBE-312 is required.

Prerequisite: take MBE-101; Corequisite: MBE-312; Benchmark I must be completed.

MBE-312 MBE Pre-Student Teaching

MBE-312 MBE Pre-Student Teaching

(1 cr.)

Repeatable for Credit: No

Planned experiences within marketing and business PK-12 classrooms; identification and application of principles, concepts, and strategies acquired in program professional courses. Includes observation of teaching, planning for teaching, teaching, assessment of student learning, and reflection on teaching.

Prerequisite: Benchmark I Passed

MBE-349 Cooperative Education Experience

MBE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved area of marketing education. May be recurring. Supervised during work/study periods. Recurring experiences would be designed to build upon previous experiences in the course.

Department Consent

MBE-355 Marketing and Business Seminar

MBE-355 Marketing and Business Seminar

(2-3 cr.)

Repeatable for Credit: Yes

Issues and trends in marketing, business and career and technical education. Experiences necessary for success during student teaching and upon initial career entry.

MBE-365 Integrated Software Applications for Instruction

MBE-365 Integrated Software Applications for Instruction

(3 cr.)

Repeatable for Credit: No

Software applications for the professional and personal use of instructors. The effective use of word processing, spreadsheet, database, presentation, communication and other appropriate software applications with emphasis on curricular integration and professional standards.

Prerequisite: take ICT-103

MBE-366 Integrated Media Applications for Instruction

MBE-366 Integrated Media Applications for Instruction

(3 cr.)

Repeatable for Credit: No

Prepares instructors to use various media in the learning environment. Emphasis on proper curriculum integration based on sound curriculum design principles and professional standards. Instructor's consent

Prerequisite: take MBE 365

MBE-401 Marketing Education Curriculum

MBE-401 Marketing Education Curriculum

(2-3 cr.)

Repeatable for Credit: No

Program, course and lesson-level curriculum development skills. Assessment systems, strategies, design elements, and test development skills.

Prerequisites: take MBE-301, MBE-311, and MBE-312, and completion of Benchmark I

MBE-409 Marketing Education - Student Teaching

MBE-409 Marketing Education - Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Prerequisites: Benchmark II completion and MBE-401

MBE-411 Business Education Methods and Curriculum

MBE-411 Business Education Methods and Curriculum

(5 cr.)

Repeatable for Credit: No

Teaching methods and curriculum design for business educators. Emphasis on basic business subjects; business literacy and entry-level job preparation; issues and trends; demonstration and development of a standards-based business education curriculum.

Prerequisite: Benchmark I completion

MBE-412 Elementary Keyboarding Teaching Methods

MBE-412 Elementary Keyboarding Teaching Methods

(1 cr.)

Repeatable for Credit: No

Developmentally appropriate methods of instruction in keyboarding and emerging input technologies applicable to elementary educational settings.

MBE-413 Advanced Business Ed Methods

MBE-413 Advanced Business Ed Methods

(2 cr.)

Repeatable for Credit: No

Methods and curriculum for information systems and accounting; assessment; demonstration and development of standards-based business education lessons.

Prerequisite: take CTE 405

MBE-419 Business Education Student Teaching

MBE-419 Business Education Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools. Department consent

Prerequisites: Benchmark II completion and MBE-411

MBE-449 Cooperative Education Experience

MBE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved area of marketing education. May be recurring. Supervised during work/study periods. Recurring experiences would be designed to build upon previous experiences in the course.

Department Consent

MBE-488 Marketing Education-Internship

MBE-488 Marketing Education-Internship

(8-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Prerequisites: Benchmark II completion and MBE-401

MBE-489 Business Education Internship

MBE-489 Business Education Internship

(8-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Prerequisite: Benchmark II completion

MBE-499 Independent Study

MBE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Mathematics

MATH-10 Fundamentals of Algebra

MATH-10 Fundamentals of Algebra

(2 cr.)

Repeatable for Credit: No

Review of fundamental principles of elementary algebra. Credit earned for MATH-10 will not count toward graduation.

MATH-90 Intermediate Algebra

MATH-90 Intermediate Algebra

(4 cr.)

Repeatable for Credit: No

Basic algebraic skills: factoring, exponents, rational expressions, linear equations and inequalities, systems of equations, quadratic equations, and an introduction to functions. Credit earned for MATH-90 will not count towards graduation.

Prerequisite: Math Placement Level 1 or completion of MATH-10.

MATH-118 Concepts of Mathematics

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

MATH-120 Introductory College Mathematics I

MATH-120 Introductory College Mathematics I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytical Reasoning

Repeatable for Credit: No

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations.

Prerequisite: Math Placement Level 2 or completion of MATH-90.

MATH-121 Introductory College Mathematics II

MATH-121 Introductory College Mathematics II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two-dimensional analytic geometry.

Prerequisite: Math Placement Level 3 or completion of MATH-120

MATH-123 Finite and Financial Mathematics with Applications

MATH-123 Finite and Financial Mathematics with

Applications

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Topics in business-related mathematical problem solving including simple and compound interest, annuities, mortgages, supply and demand, break-even analysis. Best-fit lines, problem solving with systems of linear equations, linear programming, matrices, Gaussian elimination, set theory, Venn diagrams, permutations, combinations, basic and conditional probability, expected value.

Prerequisites: Math Placement Level 2 or completion of MATH-90 with a grade of C+ or better.

MATH-150 Calculus with Precalculus A

MATH-150 Calculus with Precalculus A

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

First course in a two-course sequence. Review of basic algebra, solving equations and inequalities, graphing polynomial and rational functions. Limits and derivatives of polynomial and rational functions. Applications of derivatives.

Prerequisite: Math Placement Level 2 or completion of MATH-90.

MATH-151 Calculus with Precalculus B

MATH-151 Calculus with Precalculus B

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Second course in a two-course sequence. Properties, identities, and derivatives of exponential, logarithmic, and trigonometric functions. Affine transformations and graphing, linear systems of equations, and geometric applications of trigonometry. Integration and the Fundamental Theorem of Calculus.

Prerequisite: Completion of MATH-150

MATH-153 Calculus I

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-154 Calculus II

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-156 Calculus and Analytic Geometry I

MATH-156 Calculus and Analytic Geometry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Equivalent to MATH 153 and MATH 154.

Prerequisite: Math Placement Level 4 or completion of MATH-121.

MATH-157 Calculus and Analytic Geometry II

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-158 Calculus III

MATH-158 Calculus III

(3 cr.)

Repeatable for Credit: No

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisite: take MATH-154 or MATH-157

MATH-180 Foundations of the Language of Mathematics

MATH-180 Foundations of the Language of Mathematics

(4 cr.)

Repeatable for Credit: No

Conceptual foundations of mathematics and the language of mathematics. Logical rules of inference, statement forms, methods of proof, universal and existential quantifiers, abstraction and definition, set theory, relations, functions and cardinality. Proofs involving the above concepts and applications of the concepts and methods of proof to particular abstract mathematical objects.

Prerequisite: take either MATH-151, MATH-153 or MATH-156; not for students who took MATH-270

MATH-196 Uncovering the Role Mathematics Plays in Everyday Life

MATH-196 Uncovering the Role Mathematics Plays in Everyday Life

(3 cr.)

Repeatable for Credit: No

Investigation of mathematical concepts and algorithms that are used in everyday objects and technology. Concepts of fair division, identification numbers, information science, symmetry and patterns, and their applications. Offered for Wisconsin in Scotland program only.

MATH-199 Independent Study

MATH-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

MATH-250 Differential Equations with Linear Algebra

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

MATH-255 Differential Equations

MATH-255 Differential Equations

(3 cr.)

Repeatable for Credit: No

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

Prerequisites: take either MATH-154 or MATH-157, and take MATH-275

MATH-262 Modern Geometry

MATH-262 Modern Geometry

(3 cr.)

Repeatable for Credit: No

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-270 Discrete Mathematics

MATH-270 Discrete Mathematics

(3 cr.)

Repeatable for Credit: No

Exploration of sets, relations, functions, formal logic, proof techniques, counting techniques, graphs, recurrence relations, and generating functions. Applications in mathematics and computer science.

Prerequisites: take either MATH-153 or MATH-156; not for students who took MATH-180

MATH-275 Linear Algebra

MATH-275 Linear Algebra

(3 cr.)

Repeatable for Credit: No

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-370 Modern Algebra I

MATH-370 Modern Algebra I

(3 cr.)

Repeatable for Credit: No

A first course in abstract algebra. Basic number theory, groups, subgroups, cyclic groups, permutation groups, factor and product groups, homomorphisms, isomorphisms, and an introduction to rings.

Prerequisites: MATH 154 or MATH 157, MATH 180 or MATH 270, and MATH 275

MATH-371 Modern Algebra II

MATH-371 Modern Algebra II

(3 cr.)

Repeatable for Credit: No

Continuation of MATH 370 . Rings, integral domains, fields, polynomials, groups, vector spaces, and field extensions. Advanced topics in abstract algebra.

Prerequisite: take MATH 370

MATH-375 Numerical Linear Algebra

MATH-375 Numerical Linear Algebra

(3 cr.)

Repeatable for Credit: No

Theoretical foundations of algorithms employed to numerically solve classical problems of linear algebra including linear systems and eigenvalue problems.

Prerequisites: Either MATH 180 or MATH 270, , and either MATH 250 or MATH 275.

MATH-450 Real Analysis I

MATH-450 Real Analysis I

(3 cr.)

Repeatable for Credit: No

Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions.

Prerequisite: take MATH-154 or MATH-157

MATH-451 Real Analysis II

MATH-451 Real Analysis II

(3 cr.)

Repeatable for Credit: No

Continuation of MATH 450; differentiation, integration, infinite series.

Prerequisite: take MATH-450

MATH-460 Complex Variables with Applications

MATH-460 Complex Variables with Applications

(3 cr.)

Repeatable for Credit: No

Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues.

Prerequisite: take MATH-158

MATH-499 Independent Study

MATH-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Mathematics Education

MATHED-365 Mathematics Education Methods

MATHED-365 Mathematics Education Methods

(3 cr.)

Repeatable for Credit: No

Content, curriculum, methods, materials, technology, standards and research used in the teaching of mathematics. Design of mathematics instruction for a variety of learners.

Prerequisites: Take STMED-260

MATHED-409 Mathematics Student Teaching

MATHED-409 Mathematics Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Student teaching experience in mathematics.

Prerequisite: Benchmark II completion

MATHED-488 Internship Teaching - Math Education

MATHED-488 Internship Teaching - Math Education

(8-16 cr.)

Repeatable for Credit: No

Alternative to student teaching experience: licensed and salaried internship in a cooperating school for one semester.

Prerequisite: Benchmark II completion

Mathematics, Statistics and Computer Science

MSCS-149 Cooperative Education Experience

MSCS-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MSCS-192 Introductory Bioinformatics

MSCS-192 Introductory Bioinformatics

(2 cr.)

Repeatable for Credit: No

Introduction to the design, development, and application of bioinformatics tools for genomics and other integrated biological research questions. Some computer programming.

MSCS-249 Cooperative Education Experience

MSCS-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MSCS-271 Formal Languages and Finite Automata

MSCS-271 Formal Languages and Finite Automata

(3 cr.)

Repeatable for Credit: No

Topics on the foundation of the theory of computation, including languages, grammars, regular expressions, finite state machines, Turing machines.

Prerequisites: Take CS 145 and take either MATH 180 or MATH 270

MSCS-280 Graph Theory with Applications in Computer Science

MSCS-280 Graph Theory with Applications in Computer Science

(3 cr.)

Repeatable for Credit: No

Principles of graph theory, computer representation of graphs, properties of general graphs, structure and properties of special graphs, flow networks, and computer applications of graph theory.

Prerequisites: Take CS-145 and take either MATH-180 or MATH-270

MSCS-335 Machine Learning

MSCS-335 Machine Learning

(3 cr.)

Repeatable for Credit: No

Methods for supervised learning of labelled data sets, and unsupervised learning of unlabelled data sets. Theory, application, and validation of models, including linear-subset, nearest-neighbor, support-vector machines, forests, neural networks, and other geometric methods.

Prerequisites: take CS 145, MATH 158, MATH 275, and either STAT 330 or STAT 331.

MSCS-349 Cooperative Education Experience

MSCS-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MSCS-380 Cryptography

MSCS-380 Cryptography

(3 cr.)

Repeatable for Credit: No

Classical and modern encryption methods, including both public-key and symmetric-key cryptosystems; elementary number theory; digital signature schemes and hash functions; introduction to (and countermeasures for) number-theoretic and algebraic cryptanalysis; discrete logarithms; applications to information assurance and cyber-security.

Prerequisite: take MATH 370 and CS 145

MSCS-390 Fourier Transform and Applications

MSCS-390 Fourier Transform and Applications

(3 cr.)

Repeatable for Credit: No

Fundamental theory of Fourier transform with applications to a variety of ics. Traditional definition of Fourier series, the modern functional definition of Fourier transform and its properties. Discrete and fast Fourier transform. Convolution and Shah-function and their applications to Fourier transform.

MSCS-390 Topics

MSCS-390 Topics

(1-3 cr.)

Repeatable for Credit: Yes

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director.

MSCS-390 Topics: Introduction to Parallel Processing with CUDA

MSCS-390 Topics: Introduction to Parallel Processing with CUDA

(2 cr.)

Repeatable for Credit: No

Introduction to parallel processing using the Compute Unified Device Architecture (CUDA) system. Overview of CUDA architecture, kernels, grids, threads, memory structure and performance considerations. Basic algorithms and examples of applications to

computer graphics, image processing and scientific computing.
Prerequisites: take CS-244 and MATH-275

MSCS-399 Independent Study

MSCS-399 Independent Study

(1-3 cr.)
Repeatable for Credit: Yes
Department Consent

MSCS-446 Numerical Analysis I

MSCS-446 Numerical Analysis I

(3 cr.)
Repeatable for Credit: No
Theory and applications of numerical methods for linear algebra, non-linear equations and polynomial interpolation.
Prerequisites: take MATH-158, MATH-275 and CS-145

MSCS-447 Numerical Analysis II

MSCS-447 Numerical Analysis II

(3 cr.)
Repeatable for Credit: No
Theory and applications of numerical methods for approximation, numerical integration and differentiation, differential equations, and Fourier analysis.
Prerequisites: take MSCS-446 and MATH-255

MSCS-449 Cooperative Education Experience

MSCS-449 Cooperative Education Experience

(2 cr.)
Repeatable for Credit: Yes
Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.
Department Consent

MSCS-475 Applied Mathematics Internship

MSCS-475 Applied Mathematics Internship

(2-8 cr.)
Repeatable for Credit: Yes
Off-campus work and study in approved position to gain experience in using computer and/or statistical techniques in the analysis and

solution of real-world problems. Interns receive salaried appointments with cooperating companies for summer or summer plus one semester.

Department Consent

Must be Junior level or higher

MSCS-492 Mathematical and Computational Foundations of Bioinformatics

MSCS-492 Mathematical and Computational Foundations of Bioinformatics

(3 cr.)

Repeatable for Credit: No

Examination of different types of algorithms employed in bioinformatics, their mathematical foundations, and software implementation. Topics in mapping DNA, sequencing DNA, comparing sequences, predicting genes, finding signals, identifying proteins, repeat analysis, DNA arrays, genome rearrangements, molecular evolution, phylogenetics, machine learning, systems biology, and computational biology.

Prerequisites: must be Senior level and Applied Math & Computer Science major.

MSCS-496 Preparation for Industrial Careers in Mathematics

MSCS-496 Preparation for Industrial Careers in Mathematics

(3 cr.)

Repeatable for Credit: No

Case studies in industrial mathematics problems. Students will work in teams to solve problems from industry partners using mathematical techniques. Techniques may come from all areas of the mathematical sciences.

Prerequisite: Instructor approval required

MSCS-499 Independent Study

MSCS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Mechanical Engineering

ME-342 Machine Component Design

ME-342 Machine Component Design

(4 cr.)

Repeatable for Credit: No

Analysis and design of machine elements and machines; loads, stresses, deflections, material selection, fatigue failure; fasteners, bonding, and springs; mechanical power transmission components including gearing, bearings, shafting, and frictional devices.

Prerequisite: take ENGR 294. Mechanical Engineering students only

ME-349 Cooperative Education Experience

ME-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

ME-352 Introduction to Numerical Methods in Engineering

ME-352 Introduction to Numerical Methods in Engineering

(3 cr.)

Repeatable for Credit: No

Solving engineering problems related to solid mechanics, fluid mechanics, heat transfer, and engineering design through the application of numerical methods.

Prerequisite: take MATH 158, ETECH 100 and MATH 250 or (MATH 255 and MATH 275). Mechanical Engineering students only

ME-390 Engineering Thermodynamics

ME-390 Engineering Thermodynamics

(3 cr.)

Engineering applications of thermodynamics.

Prerequisite: take PHYS 291 and MATH 250 (which may be taken concurrently). Mechanical Engineering students only

ME-392 Engineering Heat and Mass Transfer

ME-392 Engineering Heat and Mass Transfer

(3 cr.)

Repeatable for Credit: No

Introduction to the principles and applications of heat transfer through conduction, convection and radiation, analysis of heat exchangers and fins, and introduction to mass transfer through diffusion.

Prerequisite: take ENGR 391 and ME 352. Mechanical Engineering students only

ME-396 Introduction to Numerical Methods in Engineering

ME-396 Introduction to Numerical Methods in Engineering

(3 cr.)

Repeatable for Credit: No

Application of existing numerical methods to solve problems in different branches of mechanical engineering.

Prerequisites: take MATH 158 and ETECH 100 and MATH 250 or (MATH 255 and MATH 275)

ME-405 Capstone I: Concurrent Design

ME-405 Capstone I: Concurrent Design

(3 cr.)

Repeatable for Credit: No

Concurrent design of a product or process to solve an industry problem or answer a research question related to Mechanical Engineering. Defining end-user needs, client needs, design objectives and constraints, and metrics for success. Brainstorming, problem solving, and creativity methods. Requires teamwork, problem solving, effective communication skills, and project management.

Prerequisite: Mechanical Engineering students only

Corequisites: take ME 342 and ME 392

ME-410 Capstone II: System Design

ME-410 Capstone II: System Design

(3 cr.)

Repeatable for Credit: No

A study of process and/or product development through 1) applied research and experimentation, or 2) the design, building, and testing of a product assembly or system, used to perform a useful function or solve an industry-based or independent research problem. Process documentation and experimental analyses will be emphasized.

Prerequisites: take ME 405. Mechanical Engineering students only

Corequisites: take ENGR 363 and ME 492 (or take as prerequisites)

ME-449 Cooperative Education Experience

ME-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

ME-492 System Dynamics

ME-492 System Dynamics

(4 cr.)

Repeatable for Credit: No

Modeling and analysis of dynamic systems with a focus on mechanical applications. Analysis of electrical, thermal, and fluid elements conducted through the lens of their mechanical analogs. Techniques for the development of time domain solutions and frequency domain solutions including differential equations, block diagram representation, computer simulation, numerical methods, and linearization.

Prerequisites: take ENGR 292 and ME 352. Mechanical Engineering students only

Corequisites: take ENGR 363 and ME 392 (or take as prerequisites)

ME-495 Advanced Thermal Systems

ME-495 Advanced Thermal Systems

(4 cr.)

Repeatable for Credit: No

Application of the fundamentals of thermodynamics, fluid mechanics, and heat transfer to the analysis and modeling of thermal engineering components and systems.

Prerequisites: take ME 392

Military Science and Leadership

MSL-101 Introduction to the Army

MSL-101 Introduction to the Army

(1 cr.)

Repeatable for Credit: No

Students will examine the Army Profession and cover an overview of the US Army. The focus is on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the ROTC program, its purpose in the Army, and advantages for the students.

MSL-102 Foundations of Agile and Adaptive Leadership

MSL-102 Foundations of Agile and Adaptive Leadership

(1 cr.)

Repeatable for Credit: No

Discuss the personal development of life skills such as critical thinking, time management, goal setting, communication and how they play a role in the US Army. Understand the personal challenges and competencies that are critical for effective leadership and receive an introduction to the basics of Army tactics and equipment.

MSL-199 Independent Study

MSL-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

MSL-201 Leadership and Decision Making

MSL-201 Leadership and Decision Making

(2 cr.)

Repeatable for Credit: No

Explores the dimensions of leadership strategies and styles by examining team dynamics and leadership theories. Exercises and discussions in creative thinking and the ability to apply Troop Leading Procedures (TLP) to develop innovative solutions to problems. The Army Profession is also stressed through leadership forums and a leadership self-assessment.

Instructor's Consent Required

MSL-202 Army Doctrine and Team Development

MSL-202 Army Doctrine and Team Development

(2 cr.)

Repeatable for Credit: No

Study focuses on Army doctrine and team development. Army Values, Teamwork, and Warrior Ethos and their relationship to the Law of Land Warfare and philosophy of military service are stressed. The ability to lead and follow is also covered through Team Building exercises. Students apply their knowledge in a hands-on performance-oriented environment.

MSL-299 Independent Study

MSL-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

MSL-301 Training Management and the Warfighting Functions

MSL-301 Training Management and the Warfighting Functions

(3 cr.)

Repeatable for Credit: No

Study, practice, and apply the fundamentals of Army Leadership, Officership, Army Values, Personal Development, and tactics. Develop planning, coordinating, navigating, motivating and leading a mission using OPORD's. Conduct self and peer review of students' abilities and how to improve those leader skills that can develop you into a successful officer.

Instructor's Consent Required

Prerequisites: take MSL 201 and MSL 202

MSL-302 Applied Leadership in Small Unit Operations

MSL-302 Applied Leadership in Small Unit Operations

(3 cr.)

Repeatable for Credit: No

Discussions on applied leadership in small unit operations. Study, practice, and apply the fundamentals of direct level leadership and small unit tactics at the platoon level for offensive and defensive operations. Emphasis is placed on improving oral and written communication abilities through professional briefings, OPORD production, and mission execution.

Instructor's Consent Required

Prerequisites: take MSL 201, MSL 202 and MSL 301

MSL-304 Military History in the Western Tradition

MSL-304 Military History in the Western Tradition

(3 cr.)

Repeatable for Credit: No

The purpose of this course is to survey and analyze the American military experience from its colonial origins to today's "war on terrorism." This course, then, looks most closely at operational military history. We will employ the "new military history" to examine the effect on operations of policy ("ends") and strategy ("ways"), the human experience in battle ("face of battle"), increasingly complex technology ("means"), and geography ("fields of battle"). In addition, we will study the effects of U.S. society on its military and the reverse, in particular civil-military relations.

MSL-350 Leader Development and Assessment Course Field Experience

MSL-350 Leader Development and Assessment Course Field Experience

(2 cr.)

Repeatable for Credit: No

A 33-day ROTC training event designed to develop and evaluate leadership ability, including judgment, common sense, ingenuity and stamina. Perform complex tasks and make difficult decisions in demanding situations.

Prerequisites: take MSL-301 and MSL-302

MSL-399 Independent Study

MSL-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

MSL-401 The Army Officer

MSL-401 The Army Officer

(3 cr.)

Repeatable for Credit: No

Focuses on development of the Army Officer. Develop the knowledge, skills, and abilities to plan, resource, and continuously assess the conduct of training at the small unit level. You will also learn about Army programs that support counseling subordinates and evaluating performance, values and ethics, career planning, and legal responsibilities.

Instructor's Consent Required

Prerequisites: take MSL 301 and MSL 302

MSL-402 Company Grade Leadership

MSL-402 Company Grade Leadership

(3 cr.)

Repeatable for Credit: No

Develop the knowledge, skills, and abilities required of junior officers pertaining to the Army in Unified Land Operations and Company Grade Officer roles and responsibilities. This course will assist in preparing you for your transition into your military career. Complete an Oral Practicum demonstrating knowledge of their future careers.

Instructor's Consent Required

Prerequisites: take MSL 301, MSL 302 and MSL 401

MSL-499 Independent Study

MSL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Music

MUSIC-101 Class Piano I

MUSIC-101 Class Piano I

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Group instruction in piano technique and repertoire at beginner level. One one-hour lesson per week; additional practice time required.

MUSIC-120 Music Fundamentals

MUSIC-120 Music Fundamentals

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Introduction to the elements of music, with a focus on Western musical notation and theory. Notation, application, and practice of basic theory and music analysis skills.

MUSIC-132 Music in Our World

MUSIC-132 Music in Our World

(3 cr.)

Global Perspective, Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Music materials as they pertain to perceptive listening and awareness of cultural identity as defined by music. A survey of Western/American music practice contrasted with other global traditions.

MUSIC-134 Rock Music History

MUSIC-134 Rock Music History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Characteristics and components: examination of a social music style, people who made the music, and its meaning for different groups in America and abroad.

MUSIC-231 Honors Jazz History

MUSIC-231 Honors Jazz History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Art History/Music and Theater Appreciation, Cross-disciplinary Issues

Repeatable for Credit: No

American jazz connections to changes in society: jazz origins and characteristics, a development of artists and styles, and a music's reflection of individual expression, race relations, and acceptance by society.

Honors Program Students or GPA 3.0 or better

MUSIC-236 Music in Media

MUSIC-236 Music in Media

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Music as an art and enhancement to communication in entertainment, marketing, and social environments. How music is used to enhance the visual and the experience, affecting the mental and emotional state of individuals in society.

MUSIC-249 Cooperative Education Experience

MUSIC-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MUSIC-264 Jazz Band

MUSIC-264 Jazz Band

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Jazz styles and improvisation from the dance band era to the present. Study and performance of contemporary "big band" jazz. Membership is open to all qualified students. Audition may be necessary. Repeatable for additional credit

MUSIC-266 Concert Band

MUSIC-266 Concert Band

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership is open to all qualified students. Audition may be necessary.

MUSIC-267 Symphonic Singers

MUSIC-267 Symphonic Singers

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Advanced choral techniques, reading and analysis of choral music of all types and periods. A special course fee applies.

MUSIC-268 Solo and Ensemble

MUSIC-268 Solo and Ensemble

(1 cr.)

Repeatable for Credit: Yes

Coaching of advanced vocal and instrumental performers for public performance.

MUSIC-269 Chamber Choir

MUSIC-269 Chamber Choir

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Performance of advanced choral music with and without accompaniment, in a select choral ensemble. Enrollment is by audition only.

MUSIC-299 Independent Study

MUSIC-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

MUSIC-300 Special Topics in Music

MUSIC-300 Special Topics in Music

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: Yes

Current issues or historical topics related to music. Specific topics will be advertised prior to the semester offered. Course is repeatable up to three times with different topics or issues.

MUSIC-320 Music Theory

MUSIC-320 Music Theory

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Continuation of MUSIC-120; in-depth study of Western music theory through analysis and ear training.

Prerequisite: take MUSIC 120 or instructor consent

MUSIC-330 Survey of Western Music History

MUSIC-330 Survey of Western Music History

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Significant compositions and composers that shaped Western music. Resulting period style characteristics, developments, and innovations that occurred from the medieval to modern and the role of music in society.

MUSIC 132 , MUSIC 134 , MUSIC 231 or MUSIC 236

MUSIC-349 Cooperative Education Experience

MUSIC-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MUSIC-350 Digital Sound Studio

MUSIC-350 Digital Sound Studio

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Study and application of audio-visual synergy in animations, films, television, games and other time-based multimedia forms.

MUSIC-449 Cooperative Education Experience

MUSIC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MUSIC-499 Independent Study

MUSIC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Nanoscience/Nanotechnology

NANO-101 Explorations in Nanotechnology

NANO-101 Explorations in Nanotechnology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Discussion of the main concepts in nanoscience with an exploration of societal and environmental impacts.

NANO-110 Introduction to Vacuum Technology

NANO-110 Introduction to Vacuum Technology

(2 cr.)

Repeatable for Credit: No

Principle concepts associated with vacuum technology and the critical components of a vacuum system. Basic vacuum system functions and characteristics. Lab course with a model vacuum system.

NANO-230 Characterization Methods of Nanomaterials

NANO-230 Characterization Methods of Nanomaterials

(3 cr.)

Repeatable for Credit: No

Laboratory based course that covers basic techniques and theory of modern characterization methods of nanomaterials. Techniques include: electron microscopy, scanning probe microscopy, diffraction spectroscopy, and emission spectroscopy.

Prerequisites: take CHEM 135 or NANO 101

NANO-301 Nanostructures

NANO-301 Nanostructures

(3 cr.)

Repeatable for Credit: No

Introduction to nanostructured materials, theory of processes to design materials with nanostructure, and properties and behavior of nanostructured materials.

Prerequisites: take NANO 230

NANO-349 Cooperative Education Experience

NANO-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

NANO-401 Nanotechnology Applications

NANO-401 Nanotechnology Applications

(3 cr.)

Repeatable for Credit: No

Review of current nanotechnology applications including societal effects.

Prerequisite: take NANO 230 and CHEM 341

Packaging

PKG-150 Packaging Fundamentals

PKG-150 Packaging Fundamentals

(3 cr.)

Repeatable for Credit: No

Explore the purpose of packaging materials and manufacturing methods, including global perspectives, history, environment, market and consumer needs.

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal

(3 cr.)

Repeatable for Credit: No

Technical exploration of paper, wood, adhesives and metal used in packaging worldwide. Material properties and international

production processes, applications, environmental impacts of paper, wood, adhesives, and metal.
Prerequisites: take PKG-150 and CHEM-135

PKG-220 Packaging Materials: Polymers and Glass

PKG-220 Packaging Materials: Polymers and Glass

(3 cr.)

Repeatable for Credit: No

Technical exploration of polymers and glass used for packaging worldwide. Material properties, production processes, applications, environmental impacts of polymers and glass.

Prerequisites: take PKG-150 and CHEM-135, BS Packaging students only

PKG-250 Consumer Packaging Systems

PKG-250 Consumer Packaging Systems

(3 cr.)

Repeatable for Credit: No

The study of packaging from the design concept through production. Lab work on structural design, sample making, and machine operation. Discussions on standard packages and their applications.

Prerequisites: take PKG-210 and PKG-220

PKG-260 Distribution Packaging

PKG-260 Distribution Packaging

(3 cr.)

Repeatable for Credit: No

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations.

Prerequisites: take PKG-210 and PKG-220

PKG-335 Packaging Machinery

PKG-335 Packaging Machinery

(3 cr.)

Repeatable for Credit: No

Weighing, forming, filling, sealing, cartoning, capping, labeling, wrapping, casing, uncasing, palletizing/depalletizing machines as applies to the functional capabilities of speed, materials, containers, and operating functions.

Prerequisites: take PKG-210 and PKG-220

PKG-349 Cooperative Education Experience

PKG-349 Cooperative Education Experience

(1-2 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PKG-350 Packaging Design and Evaluation

PKG-350 Packaging Design and Evaluation

(3 cr.)

Repeatable for Credit: No

Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation.

Prerequisites: take PKG-250 and PKG-260, and take PHYS-241 or PHYS-281

PKG-385 Medical Packaging

PKG-385 Medical Packaging

(3 cr.)

Repeatable for Credit: No

Practical knowledge of special requirements for medical devices and pharmaceuticals packaging. Discussion and evaluation of package systems, packaging procedures.

Prerequisite: take PKG-250

PKG-399 Independent Study

PKG-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PKG-449 Cooperative Education Experience

PKG-449 Cooperative Education Experience

(1-2 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PKG-490 Packaging Development

PKG-490 Packaging Development

(3 cr.)

Repeatable for Credit: No

Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer.

Prerequisites: take PKG-349 and PKG-350

PKG-495 Packaging Seminar

PKG-495 Packaging Seminar

(3 cr.)

Repeatable for Credit: No

Current packaging problems or developments (subject based on students' interests and current issues).

Prerequisites: PKG-349 and Senior Standing

PKG-499 Independent Study

PKG-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Peace Studies

PAX-201 Introduction to Applied Peace Studies

PAX-201 Introduction to Applied Peace Studies

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

A general introduction to peace studies as an area of inquiry. The nature and dynamics of violent conflict, the conditions and practices of peace in its many forms, emphasis on peace building and nonviolent conflict transformation.

PAX-210 Nonviolence and the Civil Rights Movement

PAX-210 Nonviolence and the Civil Rights Movement

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues

Repeatable for Credit: No

Introduction to theory and practice of nonviolence and its application in the American Civil Rights movement. Includes a required field trip over spring break to significant locations linked to the Civil Rights movement.

PAX-251 Special Topics in Peace Studies

PAX-251 Special Topics in Peace Studies

(1-3 cr.)

Repeatable for Credit: Yes

Topics of current or historical importance in the understanding of peace and conflict. Designated topics announced prior to the start of the course. May be repeated for elective credit, but not more than twice for a total of 6 credits.

PAX-271 Conflict Resolution and Analysis

PAX-271 Conflict Resolution and Analysis

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

An overview of the interdisciplinary field of conflict resolution and analysis in terms of theory, research, and practice. Diverse strategies for conflict mediation are explored. Social, environmental and economic justice are studied as the consequences of nonviolent conflict resolution strategies.

PAX-310 Food Justice

PAX-310 Food Justice

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

Analysis of food "geographies" - how food travels from farm to table; the importance of power and justice in the production, distribution and consumption of food. Exploration of issues of food democracy, food justice, and food sovereignty. Special attention to racial and class-based inequities within the global food system.

PAX-401 Applied Peace Studies Seminar

PAX-401 Applied Peace Studies Seminar

(3 cr.)

Repeatable for Credit: No

An analysis of beliefs and practices of peace. Students work to formulate their own ideas and positions and to develop critical arguments on peace theories by integrating the insights and arguments of a range of academic and popular sources on the subject. Culminates in a major peace-related research project.

Philosophy

PHIL-201 Introduction to Philosophy

PHIL-201 Introduction to Philosophy

(3 cr.)

Global Perspective, Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation.

PHIL-205 Philosophy of Religion

PHIL-205 Philosophy of Religion

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Principal philosophical problems in the various dimensions of religious experience and belief.

PHIL-215 Eastern Philosophy

PHIL-215 Eastern Philosophy

(3 cr.)

Global Perspective, Arts and Humanities - Philosophy

Repeatable for Credit: No

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism.

PHIL-220 Multicultural Philosophy

PHIL-220 Multicultural Philosophy

(3 cr.)

Racial and Ethnic Studies - Category A, Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Philosophical perspectives from historically underrepresented racial/ethnic groups and other cultural identities. Multiculturalism and its impact on the study of philosophy.

PHIL-225 Belief, Knowledge and Truth

PHIL-225 Belief, Knowledge and Truth

(3 cr.)

Arts and Humanities - Philosophy

Repeatable for Credit: No

Justification of rational belief and knowledge and methods used for obtaining them, with particular emphasis on problems of evidence and truth.

PHIL-235 General Ethics

PHIL-235 General Ethics

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical valuing process: principal ethical theories and their application to common human problems.

PHIL-275 Business Ethics

PHIL-275 Business Ethics

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical valuing process and major ethical standards applied to business contexts such as basic ethical perspectives on business ethics, the ethical basis of capitalism, the role of government regulation, corporate responsibility, professional and corporate ethical codes, product liability, marketing, global economics and international trade, property rights, and environmental sustainability.

PHIL-310 Philosophy of Mind

PHIL-310 Philosophy of Mind

(3 cr.)

Repeatable for Credit: No

Analysis of philosophical issues concerning the nature of mind, consciousness, and thought, and applications to cognitive science.

Prerequisites: Take PHIL-201 or PHIL-225

PHIL-499 Independent Study

PHIL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Photography

PHOTO-110 Mobile Device Photography: Visual Literacy and Image Narrative

PHOTO-110 Mobile Device Photography: Visual Literacy and Image Narrative

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to visual literacy through still and moving image photography, utilizing mobile devices. Narrative, cinematic, and photographic theory with an emphasis on developing analytic and conceptual skills. Concepts, processes and techniques applicable to many disciplines. A student-provided mobile device (smartphone) with still photographic and video capabilities is required for the course.

PHOTO-130 Introduction to Still and Moving Image Photography

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

PHOTO-199 Independent Study

PHOTO-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PHOTO-204 Exploring Photography

PHOTO-204 Exploring Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Fundamentals of analog and digital photography with an emphasis on technical processes, principles of composition, aesthetics and paradigms of visual literacy. Students must provide a digital camera with a manually adjustable shutter and aperture.

PHOTO-299 Independent Study

PHOTO-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PHOTO-305 Photo Processes

PHOTO-305 Photo Processes

(3 cr.)

Repeatable for Credit: No

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques. A special course fee applies.

Prerequisite: take PHOTO-204

PHOTO-310 Introduction to Photographic Lighting

PHOTO-310 Introduction to Photographic Lighting

(3 cr.)

Repeatable for Credit: No

Introduction to the essential concepts of lighting for still and moving image photography. Emphasis is on the application and control of natural and artificial light in studio and location photography. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisite: take PHOTO 130

PHOTO-311 Advertising and Public Relations Photography

PHOTO-311 Advertising and Public Relations Photography

(3 cr.)

Repeatable for Credit: No

A survey of advertising and public relations photography trends and practices. The relationship between photography, typography and design, image capture, manipulation, file management, workflow, output, as well as identifying and meeting client needs and expectations are stressed. A digital SLR camera is required.

Prerequisite: take PHOTO-204

PHOTO-330 Video Production

PHOTO-330 Video Production

(3 cr.)

Repeatable for Credit: No

Introduction to essential concepts and techniques of video production. Emphasis is placed on preproduction and preparation for production, writing proposals and treatments, story-boarding and developing a workflow appropriate to the project. Students develop camera operation, audio, lighting, directing, producing and editing skills. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO 130 and a DSLR camera with full manual controls in still and video capture modes is required.

PHOTO-340 History of Photography

PHOTO-340 History of Photography

(3 cr.)

Repeatable for Credit: No

Survey of the scientific and aesthetic development of photography from its beginnings to the recent practices of photographic technologies in the context of post-modernity. Examine the diversity of styles, techniques, methods, and ideologies of selected photographers focusing on their contributions and influences in advertising, art, fashion, communication technology and pop culture.

PHOTO-375 Product Photography

PHOTO-375 Product Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products.

Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required. A special course fee applies.

Prerequisite: take PHOTO 310 and PHOTO 330 . A DSLR camera with full manual control in still and video capture modes is required.

PHOTO-399 Independent Study

PHOTO-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PHOTO-411 Photojournalism and Documentary Photography

PHOTO-411 Photojournalism and Documentary Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of photojournalism and documentary photography trends and practices. The importance of still and moving images as conveyors of information and influence on public opinion is emphasized. Ethical and moral considerations, freedom of the press and the public's right to know are stressed. A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products. Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-412 Nature and Landscape Photography

PHOTO-412 Nature and Landscape Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of nature and landscape, still and moving image photography trends and practices. Emphasis on the application of appropriate techniques and equipment for field conditions. A special course fee applies. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-415 Advertising Photography

PHOTO-415 Advertising Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image advertising photography trends and practices. The relationship between marketing, design and photography in communicating with target audiences through cross-channel media are

stressed. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.
Prerequisite: take PHOTO-375

PHOTO-421 Architectural and Interior Photography

PHOTO-421 Architectural and Interior Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of architectural and interior still and moving image photography trends and practices. Emphasis on the application of appropriate techniques and equipment for field/location conditions. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-425 Corporate Communications and Public Relations Photography

PHOTO-425 Corporate Communications and Public Relations Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of corporate communications and public relations, still and moving image photography trends and practices. The relationship between marketing, corporate communications and public relations photography in influencing target audience opinion through cross-channel media are stressed. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-430 Video/Cinema Practicum

PHOTO-430 Video/Cinema Practicum

(3 cr.)

Repeatable for Credit: No

Cross discipline teams explore a selected topic(s) through the completion of professional level video/cinema project(s), from concept to distribution digital media.

Prerequisite: take PHOTO 330

PHOTO-441 Fashion and Glamour Photography

PHOTO-441 Fashion and Glamour Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of fashion and glamour still and moving image photography trends and practices. Emphasis on directing professional/non-professional talent/models and creative support and the importance of concept and design in creating effective images. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-495 Professional Portfolio Development

PHOTO-495 Professional Portfolio Development

(3 cr.)

Repeatable for Credit: No

Capstone experience for the Applied Photography minor. Students fine tune their direction and concentrate on the area they intend to specialize in their professional career. Students design and produce a portfolio to be evaluated by representative professionals.

Standards of professional practice are emphasized.

Prerequisites: 18 credits of MEDIA or PHOTO courses

PHOTO-499 Independent Study

PHOTO-499 Independent Study

(1-3 cr.)

Repeatable for Credit: No

Physical Education

PE-101 Aerobic Dance

PE-101 Aerobic Dance

(1 cr.)

Repeatable for Credit: No

Introduction to aerobic dance as a technique for the development of physical fitness.

PE-103 Archery/Beginning

PE-103 Archery/Beginning

(1 cr.)

Repeatable for Credit: No

Basic target archery shooting skills including tournament target archery, equipment selection and care, safe shooting behaviors. A special course fee applies.

PE-105 Bow Hunting

PE-105 Bow Hunting

(1 cr.)

Repeatable for Credit: No

Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience. A special course fee applies.

PE-107 Badminton

PE-107 Badminton

(1 cr.)

Repeatable for Credit: No

Emphasis on fundamental skills, terminology, rules, singles and doubles play for the game of badminton.

PE-109 Basketball

PE-109 Basketball

(1 cr.)

Repeatable for Credit: Yes

PE-110 Bicycling

PE-110 Bicycling

(1 cr.)

Repeatable for Credit: No

Bicycling for health and fitness: safety, technique, and knowledge.

PE-113 Bowling

PE-113 Bowling

(1 cr.)

Repeatable for Credit: No

A special course fee applies.

PE-115 Canoe Techniques

PE-115 Canoe Techniques

(1 cr.)

Repeatable for Credit: No

Introduction to the skill of canoeing, including stroke techniques, water hydrology, equipment and safety.

PE-120 Self-Paced Personal Fitness

PE-120 Self-Paced Personal Fitness

(1 cr.)

Repeatable for Credit: No

Improvement of personal physical fitness through self-paced exercise programs and fitness activities.

PE-121 Exercise for Fitness

PE-121 Exercise for Fitness

(1 cr.)

Repeatable for Credit: No

Introduction to the importance, purpose, and mechanics of exercise for fitness.

PE-122 Fitness Yoga

PE-122 Fitness Yoga

(1 cr.)

Repeatable for Credit: No

An introduction to yoga as a mind/body fitness practice.

PE-125 Fly Fishing

PE-125 Fly Fishing

(1 cr.)

Repeatable for Credit: No

Fly tying, casting techniques, literature, stream craft, equipment considerations, conservation ethics and natural resources stewardship.

PE-129 Golf

PE-129 Golf

(1 cr.)

Repeatable for Credit: No

Fundamental principles of golf; skills, history, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish 3 golf balls for class use. A special course fee applies.

PE-135 Walking/Jogging

PE-135 Walking/Jogging

(1 cr.)

Repeatable for Credit: No

The study and practice of walking/jogging as an exercise philosophy, as an exercise technique and an exercise program.

PE-136 Ice Fishing

PE-136 Ice Fishing

(1 cr.)

Repeatable for Credit: No

An introduction to the sport of ice fishing.

PE-142 Outdoor Skills

PE-142 Outdoor Skills

(1 cr.)

Repeatable for Credit: No

Introduction to the knowledge and skills of camping, outdoor skills, and backpacking. A special course fee applies.

PE-143 Rock Climbing

PE-143 Rock Climbing

(1 cr.)

Repeatable for Credit: No

Rock climbing as a recreational sport.

PE-144 Personal Defense

PE-144 Personal Defense

(1 cr.)

Repeatable for Credit: No

Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks.

PE-145 Practicum in Intercollegiate Athletics

PE-145 Practicum in Intercollegiate Athletics

(1 cr.)

Repeatable for Credit: Yes

Practical experience in intercollegiate athletics, including completion of a season as a member of an intercollegiate team.

Department Consent

Prerequisite: take PE-200

PE-146 Racquetball/Beginning

PE-146 Racquetball/Beginning

(1 cr.)

Repeatable for Credit: No

Introduction to the fundamental skills, terminology, and rules for racquetball.

PE-148 Relaxation

PE-148 Relaxation

(1 cr.)

Repeatable for Credit: No

An introduction to the principles and skills of relaxation as applied in everyday life.

PE-150 Snowboarding

PE-150 Snowboarding

(1 cr.)

Repeatable for Credit: No

An introduction to the skills and safety aspects basic to snowboarding.

PE-152 Skiing

PE-152 Skiing

(1 cr.)

Repeatable for Credit: No

An introduction to the skills and safety aspects basic to the lifetime sport of downhill skiing.

Department Consent

PE-154 Fishing

PE-154 Fishing

(1 cr.)

Repeatable for Credit: No

History, terminology, regulations, equipment and techniques involved in the recreational activity of fishing.

PE-155 Introduction to Curling

PE-155 Introduction to Curling

(1 cr.)

Repeatable for Credit: No

Definition and application of curling terminology, history, etiquette, technique and strategy. Curling's interrelationship with mental and

physical wellness, and professional opportunities. A special course fee applies.

PE-156 Soccer

PE-156 Soccer

(1 cr.)

Repeatable for Credit: No

The development and improvement of the skills and tactics required in the sport of soccer.

PE-159 Softball

PE-159 Softball

(1 cr.)

Repeatable for Credit: No

The development and improvement of the skills required in the sport of softball.

PE-173 Skin and Scuba Diving

PE-173 Skin and Scuba Diving

(1 cr.)

Repeatable for Credit: No

Introduction to the principles and skill techniques of skin and scuba diving.

PE-176 Tennis/Beginning

PE-176 Tennis/Beginning

(1 cr.)

Repeatable for Credit: No

Emphasis on fundamental skills, terminology, rules, singles and doubles play for the game of tennis.

PE-182 Tumbling I

PE-182 Tumbling I

(1 cr.)

Repeatable for Credit: No

An introduction to basic tumbling skills, including forward, backward, and sideward rotational skills as well as springing and vaulting movements from the hands and feet.

PE-183 Tumbling II

PE-183 Tumbling II

(1 cr.)

Repeatable for Credit: No

Continued study of tumbling techniques including forward and backward rotational skills, twisting, and connections of rotational skills.

Prerequisite: take PE-182

PE-184 Tumbling III

PE-184 Tumbling III

(1 cr.)

Repeatable for Credit: No

Continued study of tumbling techniques including multiple twisting and multiple flipping rotational skills.

Prerequisite: take PE-183

PE-185 Volleyball

PE-185 Volleyball

(1 cr.)

Repeatable for Credit: Yes

The application of techniques and rules of the game of volleyball.

PE-187 Weight Training

PE-187 Weight Training

(1 cr.)

Repeatable for Credit: No

Improvement of general physical strength and fitness using the overload method.

PE-199 Independent Study

PE-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PE-200 Orientation to Intercollegiate Athletics

PE-200 Orientation to Intercollegiate Athletics

(1 cr.)

Repeatable for Credit: No

Introduction to intercollegiate athletics, including NCAA and conference regulations; current issues, such as professional sports, costs, drugs, Title IX, minority issues and ethics; components of athletic programs; physiology of exercise; and psychology of sport.

PE-201 Wellness and Social Responsibility

PE-201 Wellness and Social Responsibility

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Dimensions of wellness including physical, intellectual, environmental, social, spiritual and emotional health. Assess own health, create healthy lifestyle, current trends, risks vs. benefits. Social responsibility of health-individual and society. Discuss health and ethical correlated issues.

PE-204 Competition in the 21st Century

PE-204 Competition in the 21st Century

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Investigation into the contemporary issues and ethical considerations of Intercollegiate athletic competition. Topics will include sport governance, contemporary social issues, psychological aspects, and proper training.

PE-205 Lifelong Wellness

PE-205 Lifelong Wellness

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Lifelong wellness through the application of healthy lifestyle choices, education and physical activity with a focus on cross-disciplinary issues, ethical reasoning and social responsibility.

PE-206 Diversity and Controversies in Sport and Exercise

PE-206 Diversity and Controversies in Sport and Exercise

(3 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

Critical examination of the issues and controversies in sport and physical activity with focus on issues of race, ethnicity, gender diversity and levels of ability. Barriers to physical activity and the impact on health and well-being.

PE-265 Physical Activities for Young Children

PE-265 Physical Activities for Young Children

(2 cr.)

Repeatable for Credit: No

Sequential development of physical perceptual skills in children, birth to age 5; perceptual motor activities that promote development.

PE-299 Independent Study

PE-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PE-345 Basketball Officiating

PE-345 Basketball Officiating

(1 cr.)

Repeatable for Credit: No

Rules and officiating techniques for men's and women's basketball; preparation for DGWS and/or WIAA officiating certifications.

PE-346 Football Officiating

PE-346 Football Officiating

(1 cr.)

Repeatable for Credit: No

Application of football officiating rules and techniques.

PE-352 Theory and Management of Coaching

PE-352 Theory and Management of Coaching

(2 cr.)

Repeatable for Credit: No

Current management principles and practices applied to the profession of coaching.

PE-362 Psycho-Social Aspects of Athletics

PE-362 Psycho-Social Aspects of Athletics

(2 cr.)

Repeatable for Credit: No

Examination of the psychology of sport and human movement. Understanding motivation, individual differences and social influence.

PE-399 Independent Study

PE-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department consent

PE-401 Coaching Gymnastics

PE-401 Coaching Gymnastics

(2 cr.)

Repeatable for Credit: No

Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program.

PE-460 Coaching Basketball

PE-460 Coaching Basketball

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-461 Coaching Football

PE-461 Coaching Football

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-470 Coaching Baseball

PE-470 Coaching Baseball

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-471 Coaching Track and Field

PE-471 Coaching Track and Field

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching track and field, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-478 Coaching and Officiating Volleyball

PE-478 Coaching and Officiating Volleyball

(2 cr.)

Repeatable for Credit: No

Skills and techniques of coaching and officiating competitive volleyball.

Instructor's Consent Required

Prerequisite: take PE-185

PE-480 Coaching Youth Athletes

PE-480 Coaching Youth Athletes

(2 cr.)

Repeatable for Credit: No

Coaching strategies for organized non-varsity youth sports programs--philosophy, psychology, physiology, pedagogy, prevention and care of injuries, and legalities.

PE-481 Coaching Hockey

PE-481 Coaching Hockey

(2 cr.)

Repeatable for Credit: No

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive hockey skills and strategies; organizing and administering hockey programs at all age levels.

PE-482 Coaching Softball

PE-482 Coaching Softball

(2 cr.)

Repeatable for Credit: No

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive softball skills and strategies; organizing and administering softball programs at all age levels.

Must be Sophomore level or higher

PE-483 Coaching Soccer

PE-483 Coaching Soccer

(2 cr.)

Repeatable for Credit: No

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive soccer skills and strategies; organizing and administering soccer programs at all age levels.

Must be Sophomore level or higher

PE-490 Practicum in Coaching

PE-490 Practicum in Coaching

(1-3 cr.)

Repeatable for Credit: No

On- or off-campus work and study in athletic coaching with competitive teams.

Department Consent

PE-499 Independent Study

PE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Physics

PHYS-139 Introduction to Research Methods in Physics

PHYS-139 Introduction to Research Methods in Physics

(3 cr.)

Analytic Reasoning & Natural Science - Natural Science

Repeatable for Credit: No

Work on cutting edge-physics experiments in teams. Develop verbal communication and scientific writing skills. Basics of experimental design and how to analyze and explain data. Experiments involving lasers, plasmas, and other topics. Develop skills required to work in teams. No previous physics knowledge needed.

Prerequisite: Math competency equivalent to Placement Level 2 or higher, or completion of MATH 120

PHYS-150 The Nature and Application of Light and Color

PHYS-150 The Nature and Application of Light and Color

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Sciences

Repeatable for Credit: No

An introduction to light and color. Basic principles of the nature of light and our perception of light and color.

Prerequisite: One year H.S. Algebra and Math placement score required, or MATH-10 or higher.

PHYS-151 Astronomy

PHYS-151 Astronomy

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Scientific method of observing, measuring, and theorizing applied to the solar system, planets, stars, galaxies and the universe.

PHYS-199 Independent Study

PHYS-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PHYS-211 Introduction to Physics

PHYS-211 Introduction to Physics

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies.

PHYS-212 Introduction to Physics: Lab

PHYS-212 Introduction to Physics: Lab

(1 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Measurement, analysis and presentation of laboratory data on basic physics concepts, including mechanics, fluids, heat, electricity, light and sound.

Corequisite: PHYS-211

PHYS-222 Thermodynamics and Renewable Energy

PHYS-222 Thermodynamics and Renewable Energy

(3 cr.)

Repeatable for Credit: No

Energy resources and the laws of thermodynamics with a focus on renewable energy as well as the technology required to harness and store it. Applications include photovoltaics, wind turbines, batteries, and solar ovens.

Prerequisite: MATH 121

PHYS-241 College Physics I

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

PHYS-249 Cooperative Education Experience

PHYS-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PHYS-250 The Physics of Light and Color

PHYS-250 The Physics of Light and Color

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Properties, sources and perception of light are examined through lectures and laboratory activity. Topics considered are: color systems and vision, optical devices and phenomena; and image formation and appearance.

Prerequisite: Take any MATH 100-level or higher

PHYS-251 Topics in Astronomy

PHYS-251 Topics in Astronomy

(1 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Qualitative analysis emphasizing physical principles of selected topics in astronomy. Significance of modern methods of obtaining astronomical information.

PHYS-252 Neurophysics

PHYS-252 Neurophysics

(4 cr.)

Repeatable for Credit: No

Examination of physical principles as they relate to brain function and neural systems. Exploration of the physics involved in techniques and technologies used in the study and imaging of the brain.

Math Placement or MATH-120

PHYS-255 Meteorology

PHYS-255 Meteorology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Physical processes that determine properties of the earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics.

PHYS-257 Introduction to Geology and Soil Mechanics

PHYS-257 Introduction to Geology and Soil Mechanics

(3 cr.)

Repeatable for Credit: No

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics.

PHYS-258 Introduction to Geology

PHYS-258 Introduction to Geology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

PHYS-281 University Physics I

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

PHYS-282 University Physics II

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

PHYS-291 Statics

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.

Prerequisite or co-requisite: MATH-154 or concurrent enrollment

PHYS-299 Independent Study

PHYS-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PHYS-301 Physics for Future Presidents

PHYS-301 Physics for Future Presidents

(3 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Science-related topics that a future president must master or any person interested in public policy matters with science content.

Terrorism, weapons of mass destruction, energy production, peak oil, nuclear power, radioactivity, environmental degradation, overpopulation, space, satellites, natural disasters, and pseudoscience.

PHYS-313 Introduction to Quantum Mechanics: A Modern Physics Approach

PHYS-313 Introduction to Quantum Mechanics: A Modern Physics Approach

(3 cr.)

Repeatable for Credit: No

Introduction to quantum mechanics and its applications to atomic structure, molecular bonds, lasers, properties of condensed matter, and the structure of the nucleus.

Prerequisites: take PHYS 282

PHYS-321 Statics and Strength of Materials

PHYS-321 Statics and Strength of Materials

(4 cr.)

Repeatable for Credit: No

Static equilibrium conditions applied to trusses and frames. Application of friction. Relationship between stress and strain which includes thermal stresses. Characterizations of beams including corresponding deflections and internal stresses. Shear and bending moment diagrams. Combined stresses and strength of beam connections.

Prerequisite: take PHYS-241 or PHYS-281

PHYS-329 Atomic and Nuclear Physics

PHYS-329 Atomic and Nuclear Physics

(3 cr.)

Repeatable for Credit: No

Elements of atomic and nuclear physics.

Prerequisites: take PHYS-242 or PHYS-282, and take MATH-154 or MATH-157

PHYS-330 Science and the Fallible Mind for Educators

PHYS-330 Science and the Fallible Mind for Educators

(2 cr.)

Repeatable for Credit: No

Cross-disciplinary, physical science course primarily intended for educators. Defines and examines science with a perspective on societal issues related to the human mind, consumer marketing, psychology, religion, risk and fear, global concerns, and the use and abuse of numbers. H.S. Algebra required.

PHYS-335 Optics

PHYS-335 Optics

(3 cr.)

Repeatable for Credit: No

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography.

Prerequisites: take PHYS-282, or take PHYS-242, MATH-154 and MATH-157

PHYS-349 Cooperative Education Experience

PHYS-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PHYS-358 Soil Science and Conservation

PHYS-358 Soil Science and Conservation

(4 cr.)

Repeatable for Credit: No

Soil formation and the relationship of its physical, chemical, and biological properties to natural and agricultural ecosystems, with implications for sustainable management.

Prerequisites: Take CHEM-135 and PHYS-258

PHYS-360 Physics Modeling for Game Programmers

PHYS-360 Physics Modeling for Game Programmers

(3 cr.)

Repeatable for Credit: No

Use of mathematics and physics to model the physical world for use in games and other computer simulations. Topics include motion, gravity, collisions, vectors, matrices, differential equations, dynamics, hydrostatics, hydrodynamics, and elastic systems to model common game objects.

Prerequisites: take CS-244, MATH-275 and PHYS-281, and take either MATH-154 or MATH-157

PHYS-381 Computational Classical Mechanics

PHYS-381 Computational Classical Mechanics

(3 cr.)

Repeatable for Credit: No

Dynamics of particles, harmonic oscillations, central force problems, Lagrangian and Hamiltonian dynamics, and mechanics of rigid bodies, coupled oscillations. Use computational software to solve, analyze, and visualize equations of motion. Develop skills necessary to study advanced physics.

Prerequisites: take PHYS 281 or (PHYS 291 & ENGR 292) AND (MATH 250 or MATH 255)

PHYS-399 Independent Study

PHYS-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes
Department Consent

PHYS-413 Quantum Mechanics

PHYS-413 Quantum Mechanics

(3 cr.)

Repeatable for Credit: No

Develop theoretical framework for describing nanoscopic phenomena. Wave-particle duality, wave functions, Schrodinger's equation, quantized energy states, quantum tunneling, angular momentum and spin, time-dependent perturbation theory.

Prerequisites: take PHYS 313 and either MATH 250 or MATH 255

PHYS-427 Solid State and Condensed Matter Physics

PHYS-427 Solid State and Condensed Matter Physics

(3 cr.)

Repeatable for Credit: No

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, energy bands and gaps, diffraction.

Prerequisites: take PHYS-282

PHYS-439 Advanced Physics Laboratory

PHYS-439 Advanced Physics Laboratory

(3 cr.)

Repeatable for Credit: No

Advanced experimental design skills, verbal communication skills, and written communication skills will be developed. Experiments involving lasers, plasma, and other topics. Develop skills required to lead a team of researchers.

Prerequisite: take PHYS 313

PHYS-449 Cooperative Education Experience

PHYS-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PHYS-458 Applied Watershed Hydrology

PHYS-458 Applied Watershed Hydrology

(4 cr.)

Repeatable for Credit: No

Overview of the role of surface and groundwater flow in watersheds and how scientists study them including the impacts of anthropogenic activity and landscape characteristics on water quality at the watershed scale.

MATH 121 , CHEM 135 , and Junior or Senior status.

PHYS-489 Advanced Physics Experience

PHYS-489 Advanced Physics Experience

(1-3 cr.)

Repeatable for Credit: Yes

Experience leading to a deeper understanding of principles and applications of physics.

Instructor's Consent Required

Must be Junior level or higher

PHYS-499 Independent Study

PHYS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Plastics Engineering

PLE-149 Cooperative Education Experience

PLE-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PLE-305 Extrusion Theory and Applications

PLE-305 Extrusion Theory and Applications

(3 cr.)

Repeatable for Credit: No

Application of advanced theory in extrusion, extrusion blow molding, and thermoforming. Material specifications, part designs, die or mold designs, plasticating process and equipment, and control and monitoring systems will be emphasized.

Prerequisites: take ETECH-250, ENGR-275 and ETECH-210

PLE-310 Injection Molding Theory, Design and Application

PLE-310 Injection Molding Theory, Design and Application

(3 cr.)

Repeatable for Credit: No

Builds on basic injection molding knowledge with an emphasis on design, process cause and effect, troubleshooting, advanced molding techniques, cycle time reduction efforts, thermal management techniques, and rapid prototyping.

Prerequisites: take ETECH-341, ENGR-275, and ETECH-210

PLE-340 Process Simulation and Analysis

PLE-340 Process Simulation and Analysis

(3 cr.)

Repeatable for Credit: No

Concepts of process modeling and simulation including rheological and thermal behavior of polymers during processing. Practical applications are analyzed utilizing commercial simulation software.

Prerequisites: take PLE-305 and PLE-310; Prerequisite or concurrent enrollment: ENGR 391

PLE-349 Cooperative Education Experience

PLE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PLE-360 Testing and Analysis of Plastics

PLE-360 Testing and Analysis of Plastics

(3 cr.)

Repeatable for Credit: No

Mechanical, rheological, and thermal properties of plastics. Theoretical principles are combined with laboratory experimentation to identify and characterize plastics in order to evaluate how the properties relate to processing and part performance.

Prerequisites: take ENGR-275, ENGR-294, and CHEM-325

PLE-380 Extrusion Theory and Design

PLE-380 Extrusion Theory and Design

(3 cr.)

Repeatable for Credit: No

Application of advanced extrusion theory and transport phenomena to design extrusion, extrusion blow molding, and thermoforming processes. Material selection, heating and cooling of plastic parts, product sizing, webline handling, as well as die and screw design

using flow simulation software will be emphasized.

Prerequisite(s): *take* ETECH 210 , ETECH 343 , PLE 340 , PLE 360 , and ENGR 391 * (*ENGR 391 is a prerequisite or corequisite)

PLE-405 Capstone I: Process/Product Design

PLE-405 Capstone I: Process/Product Design

(3 cr.)

Repeatable for Credit: No

Design of a product, process, and/or experiment(s) to perform a useful function or solve an industry-based or independent research problem related to plastics engineering. Requires knowledge in research, problem solving, teamwork, communication skills, project management, documentation, and experimentation.

Corequisites: take PLE-340, PLE-360 and INMGT-422 concurrently.

PLE-410 Capstone II: Process/Product Development

PLE-410 Capstone II: Process/Product Development

(3 cr.)

Repeatable for Credit: No

A study of process and/or product development through 1) applied research and experimentation, or 2) the design, building, and testing of a product assembly, used to perform a useful function or solve an industry-based/independent research problem. Process documentation and experimental analyses will be emphasized.

Prerequisites: take PLE-405, ENGR-415 (prerequisite or corequisite), ENGR-363, and ENGR-325

PLE-420 Transport Phenomena for Plastics Engineers

PLE-420 Transport Phenomena for Plastics Engineers

(3 cr.)

Repeatable for Credit: No

Fluid dynamics and heat transfer applied to plastics processing. Plastic flow behavior as a non-Newtonian fluid with shear heating. Effects of operating conditions and mold/die design on filling behavior, cooling rates, and part characteristics. Finite difference and iterative calculations employed with comparison to fluid flow simulation software.

Prerequisites: take ENGR-275, ENGR 391 , and PLE-340 or concurrent enrollment

PLE-449 Cooperative Education Experience

PLE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PLE-499 Independent Study

PLE-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Political Science

POLS-199 Independent Study

POLS-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

POLS-210 American Government

POLS-210 American Government

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

POLS-220 State And Local Government

POLS-220 State And Local Government

(3 cr.)

Repeatable for Credit: No

State and local governments within U.S. federal system.

POLS-249 Cooperative Education Experience

POLS-249 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

POLS-250 History of Race, Politics and Technology

POLS-250 History of Race, Politics and Technology

(3 cr.)

Racial & Ethnic Studies Category A, Cross-disciplinary Issues

Repeatable for Credit: No

Historical and contemporary relationships between technology, assessments of technology impacts, studies of differing impacts upon distinct racial, ethnic and socioeconomic groups, and analysis of group differences in access to political and policy-oriented remedies.

POLS-260 Problems of U.S. Foreign Policy

POLS-260 Problems of U.S. Foreign Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Analysis of U.S. foreign policy objectives and decision making from both U.S. and foreign perspectives. Historical and contemporary problems of national defense, relationships with different regions and nations, economic and resource policies, presidential/Congressional authority, intelligence operations, and public opinion.

POLS-270 Introduction to Comparative Government

POLS-270 Introduction to Comparative Government

(3 cr.)

Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Analysis and comparison of basic political principles, institutions and problems of major Western, Communist and underdeveloped nations; consideration of alternative approaches to political order and change.

POLS-299 Independent Study

POLS-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

POLS-305 Clickbait: News, Media, and Politics in the U.S.

POLS-305 Clickbait: News, Media, and Politics in the U.S.

(3 cr.)

Social & Behavioral Sciences - Political Science, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Examination of political information within a democracy; mass media's role in political campaigns and the public's political engagement; elected officials' use of mass media to communicate with the public; examination of how changes in technology have allowed the political establishment and citizens to shape opinion on key issues such as race, gender, conflict, and the environment.

POLS-310 Political Parties and Elections

POLS-310 Political Parties and Elections

(3 cr.)

Repeatable for Credit: No

Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses.

Prerequisite: take POLS-210

POLS-315 Public Policy Analysis

POLS-315 Public Policy Analysis

(3 cr.)

Repeatable for Credit: No

Analysis of origins of public policy and policy-making process. Specific case studies of public policy.

POLS-320 Public Administration

POLS-320 Public Administration

(3 cr.)

Repeatable for Credit: No

Principles and problems of public administration in America with special attention given to the problems of democratic control and development of basic concepts of the field.

POLS-340 International Relations

POLS-340 International Relations

(3 cr.)

Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems.

POLS-349 Cooperative Education Experience

POLS-349 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

POLS-399 Independent Study

POLS-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

POLS-449 Cooperative Education Experience

POLS-449 Cooperative Education Experience

1-(8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

POLS-499 Independent Study

POLS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Property Management

PM-100 Introduction to Property Management

PM-100 Introduction to Property Management

(2 cr.)

Repeatable for Credit: No

Property management industry overview: types of residential and commercial property managed and career paths within the industry. Understanding relationships among property managers, owners and tenants.

PM-280 Hospitality Facilities Management

PM-280 Hospitality Facilities Management

(3 cr.)

Repeatable for Credit: No

Applied perspectives on responsible and efficient management of physical plant and equipment demands to achieve maximum guest and tenant satisfaction at acceptable operating costs.

Must be Sophomore level or higher

PM-349 Cooperative Education Experience

PM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PM-358 Ethical Decision Making in Property Management

PM-358 Ethical Decision Making in Property Management

(3 cr.)

Repeatable for Credit: No

Analysis of ethical decisions in property management. Case studies incorporating major laws impacting the property management industry; codes of ethics of major professional societies in property management.

PM-362 Real Estate Market Analysis and Investment Analysis

PM-362 Real Estate Market Analysis and Investment Analysis

(3 cr.)

Repeatable for Credit: No

Analytical tools used for decision making by property managers and the stakeholders they serve. Market and investment analysis and role in providing a financial perspective for the property manager and owner.

Prerequisite: take BUACT-207

PM-365 Principles of Real Estate

PM-365 Principles of Real Estate

(3 cr.)

Repeatable for Credit: No

Examine real estate issues relating to property ownership, financing, land use control, transferring interest in real estate through real estate contracts and deeds, leasing and managing property and understanding agents' pre-license and brokerage requirements.

PM-370 Principles of Property Management

PM-370 Principles of Property Management

(3 cr.)

Repeatable for Credit: No

Management of commercial, multifamily and common interest development property. Employees, management tools, government involvement, client acquisition and tax requirements.

PM-371 Commercial/Residential Property Development and Management

PM-371 Commercial/Residential Property Development and Management

(3 cr.)

Repeatable for Credit: No

Exploring factors involved in developing and managing property, both residential and commercial, including undeveloped land. Topics include feasibility studies, financing, appraisal, leases, purchase agreements and management contracts.

Prerequisite: take PM-370

PM-381 Marketing and Leasing Commercial and Residential Property

PM-381 Marketing and Leasing Commercial and Residential Property

(3 cr.)

Repeatable for Credit: No

Effective marketing practices, leasing strategies and tactics designed to attract and retain qualified residential and commercial tenants to income producing properties.

Prerequisite: take PM-370

PM-391 Real Estate Appraisal

PM-391 Real Estate Appraisal

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and practical application of real estate appraisal principles including real estate land economics, the three approaches to value applied to single family, multi-family, and commercial appraisal reports.

Must be Junior level or higher

PM-396 Valuation of Real Estate

PM-396 Valuation of Real Estate

(3 cr.)

Repeatable for Credit: No

Concepts and practical application of real estate appraisal principles including real estate land economics, the three approaches to value (cost, sales comparison, and income) for single family, multi-family and commercial investment properties.

Must be Junior level or higher

PM-410 Issues in Multi-family Property Management

PM-410 Issues in Multi-family Property Management

(3 cr.)

Repeatable for Credit: No

An in-depth study of contemporary issues affecting multi-family property management. Issues including tax credit housing and conflict negotiation will be analyzed requiring a focus on critical thinking and writing skills.

Must be Senior level or higher

PM-430 Real Estate Law

PM-430 Real Estate Law

(3 cr.)

Repeatable for Credit: No

Legal relationships involved in real estate law including owning, leasing, managing and selling interests in real property.

Prerequisite: take BULGL-365

PM-449 Cooperative Education Experience

PM-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

PM-470 Seminar In Property Management

PM-470 Seminar In Property Management

(4 cr.)

Repeatable for Credit: No

Capstone course for Property Management. Preparation of a management plan in the context of a functioning marketplace. Students will seek out and write a management plan that meets the format and content standards for professional accreditation.

Prerequisite: take PM-370 and PM-362

PM-496 Issues in Multi-family Property Management

PM-496 Issues in Multi-family Property Management

(3 cr.)

Repeatable for Credit: No

Contemporary issues affecting residential property management including tax credit housing.

PM-499 Independent Study

PM-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Psychology

PSYC-100 Psychology Seminar I-Foundations

PSYC-100 Psychology Seminar I-Foundations

(1 cr.)

Repeatable for Credit: No

Fields of study and careers in psychology with focus on development of skills, attitudes, ethics, and habits to successfully master those fields and pursue those careers.

Prerequisites: Declared Psychology major or instructor approval

PSYC-110 Introduction to Psychology

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

PSYC-120 Psychology of Adjustment

PSYC-120 Psychology of Adjustment

(3 cr.)

Repeatable for Credit: No

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

PSYC-149 Cooperative Education Experience

PSYC-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved off-campus position to gain professional/business/industrial experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent
Must be a Psychology major & have a 2.5 GPA

PSYC-190 Psychological Research Methods

PSYC-190 Psychological Research Methods

(4 cr.)

Repeatable for Credit: No

Introduction to research methods used in the behavioral sciences. Includes laboratory activities and application of methodologies and statistical software to understand and produce research compatible with American Psychological Association standards.

Prerequisite: take PSYC 110

PSYC-196 Introduction to Positive Psychology

PSYC-196 Introduction to Positive Psychology

(3 cr.)

Repeatable for Credit: No

Scientific study of human happiness, well-being, and strength of character. Students will learn what positive psychology is, what positive psychologists have learned about the good life, and how to apply these principles.

PSYC-199 Independent Study

PSYC-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PSYC-210 Introduction to Applied Psychology

PSYC-210 Introduction to Applied Psychology

(3 cr.)

Repeatable for Credit: No

Introduction to the application of psychological theories, methods of investigation, and research findings to a diverse spectrum of social problems. Emphasis is placed on the use of scientific psychology to improve aspects of everyday life.

Prerequisite: Take PSYC-110

PSYC-225 Psychology of Video Games

PSYC-225 Psychology of Video Games

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychological aspects and impacts of video games. Theoretical factors of cognitive, learning, motivation, development, personality,

social, and clinical psychology will be examined in relation to the experience and outcomes resulting from game play.

PSYC-233 Brain and Behavior

PSYC-233 Brain and Behavior

(3 cr.)

Repeatable for Credit: No

Biological basis of behavior and cognition. Biological explanation of disorders of behavior and cognition.

Prerequisite: take PSYC 110

PSYC-242 Applied Cognition

PSYC-242 Applied Cognition

(3 cr.)

Repeatable for Credit: No

Introduction to cognitive psychology, with a focus on applied areas such as engineering psychology, human factors, learning sciences, and design sciences. Emphasis on the application of cognitive models to problems, processes, and products.

Prerequisites: take PSYC 110

PSYC-249 Cooperative Education Experience

PSYC-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved off-campus position to gain professional/business/industrial experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Must be a Psychology major & have a 2.5 GPA

PSYC-251 Child Psychology

PSYC-251 Child Psychology

(3 cr.)

Repeatable for Credit: No

Investigation of the psychological development of the growing child by considering physical, cognitive, social, and emotional development beginning in the prenatal environment and continuing through age 12.

Prerequisite: Take PSYC-110

PSYC-262D Manage Team Members, Consultant, and Technical Experts

PSYC-262D Manage Team Members, Consultant, and Technical Experts

(0.1 cr.)

Repeatable for Credit: No

Discussion of methods appropriate for managing evaluation team members, consultants, and technical experts involved in a single evaluation.

PSYC-270 Social Cognition and Behavior

PSYC-270 Social Cognition and Behavior

(3 cr.)

Repeatable for Credit: No

Introduction to the theories, methods, findings and application of how we think, act and feel in everyday interactions. Includes self and social judgments/biases, attitudes, social influence, persuasion, conformity, aggression, attraction, prejudice, and helping behaviors.

Prerequisite: Take PSYC-110

PSYC-280 Forensic Psychology, Law and Ethics

PSYC-280 Forensic Psychology, Law and Ethics

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Surveys the application of psychological theory and research to legal and ethical questions and problems, from a community-oriented perspective. U.S. focus. Psychologists' roles in assessing and improving legal policies and practices, victim and offender well-being and law enforcement activity. Sociocultural bias/fairness explored.

PSYC-281 Psychology for Sustainability

PSYC-281 Psychology for Sustainability

(3 cr.)

Repeatable for Credit: No

Issues impacting environmental and societal sustainability. Factors influencing attitudes towards overconsumption, materialism, and nature. Psychological approaches to understanding and changing individuals, communities, and organizations to create a more sustainable world. Social and ethical imperatives for addressing sustainability.

Prerequisite: take BIO-101 or BIO-111

PSYC-290 Interpreting Psychological Research

PSYC-290 Interpreting Psychological Research

(3 cr.)

Repeatable for Credit: No

Analysis and interpretation of quantitative statistical arguments in psychology. Development of analytical and critical thinking skills related to statistical analyses and arguments.

Prerequisite: take PSYC-190

PSYC-298 Psychology Field Experience

PSYC-298 Psychology Field Experience

(2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

Department Consent

PSYC-299 Independent Study

PSYC-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PSYC-300 Psychology Seminar II - Career Preparation

PSYC-300 Psychology Seminar II - Career Preparation

(1 cr.)

Repeatable for Credit: No

Exploration of post-graduation options for psychology majors. Development of skills and knowledge for seeking postgraduate employment and/or graduate school admission.

Prerequisites: Take PSYC-100 and PSYC-110

PSYC-320 Psychology: Its History and Systems

PSYC-320 Psychology: Its History and Systems

(3 cr.)

Repeatable for Credit: No

History of psychology and influence of early competing schools of thought: structuralism, functionalism, behaviorism, Gestalt psychology, and psychodynamic psychology. Evolution to present as a diverse behavioral science with emphasis on neobehaviorism, humanistic psychology, and cognitive psychology.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-325 Psychology of Video Games

PSYC-325 Psychology of Video Games

(3 cr.)

Repeatable for Credit: No

Psychological factors involved in the development and use of video games. Theoretical and applied factors of cognitive, learning, motivation, development, personality, social, and clinical psychology will be examined.

PSYC-330 Psychology of Learning

PSYC-330 Psychology of Learning

(3 cr.)

Repeatable for Credit: No

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized.

PSYC-333 Drugs and the Brain

PSYC-333 Drugs and the Brain

(3 cr.)

Repeatable for Credit: No

Comparison of psychoactive drug classes, including drugs used for treatment of psychological disorders, recreational drugs, and illegal drugs, with focus on brain and behavior. Evaluation of role of psychological, biological, and sociological factors in drug use and abuse.

Prerequisite: Take PSYC-110

PSYC-335 Motivation and Emotion

PSYC-335 Motivation and Emotion

(3 cr.)

Repeatable for Credit: No

An experimentally oriented introduction to the fundamental principles of motivation and emotion.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-349 Cooperative Education Experience

PSYC-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved off-campus position to gain professional/business/industrial experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Must be a Psychology major & have a 2.5 GPA

PSYC-350 Culture and Psychology

PSYC-350 Culture and Psychology

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Explores relationships among culture, behaviors and mental processes. Addresses cultural commonalities and differences in cognitive processes, such as perception, memory, and language; interpersonal processes such as marriage and childrearing; and mental health

problems and treatments. Psychological perspectives on multicultural issues such as race, ethnicity, gender, and sexual orientation.
Prerequisite: take either PSYC-110 or SOC-110 or ANTH-220

PSYC-351 Children's Social Reasoning

PSYC-351 Children's Social Reasoning

(3 cr.)

Repeatable for Credit: No

Focused, in-depth study of social reasoning from birth through late childhood. Empathy, friendship, altruism, multicultural perceptions, shyness, assertiveness, aggression, loneliness, morality, values, and global responsibility. Heredity/environment-based theories. Assessment tools and prevention and intervention programs. It is recommended that students will have taken one of the following courses: PSYC-251, HDFS-124, HDFS-264, or PSYC-270.

Prerequisite: take PSYC-110

PSYC-352 Adolescent Psychology

PSYC-352 Adolescent Psychology

(3 cr.)

Repeatable for Credit: No

Investigation of the psychological development of the growing adolescent by considering physical, cognitive, social, emotional, and personality transitions between the ages of 13 and 20 years old.

Prerequisite: Take PSYC-110

PSYC-355 Clinical and Counseling Psychology

PSYC-355 Clinical and Counseling Psychology

(3 cr.)

Repeatable for Credit: No

Explores methods by which clinical and counseling psychologists assess and treat psychological problems and promote well-being, applying various psychological theories and research. Addresses similarities/differences of the mental health professions in philosophy, perspectives, typical career choices/duties, and training/licensure requirements. Discusses professional issues and specialty areas.

Prerequisite: Take PSYC-110

PSYC-360 Personality Theories and Applications

PSYC-360 Personality Theories and Applications

(3 cr.)

Repeatable for Credit: No

Definition of personality and analysis of historical and contemporary approaches to the study of personality. Examines personality theories, personality assessment, cultural and other group difference impacts on personality, applications of personality, and personality self-assessment.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-361 Abnormal Psychology

PSYC-361 Abnormal Psychology

(3 cr.)

Repeatable for Credit: No

Symptoms, causes, and treatment of various psychological disorders; historical changes in conceptualization and classification of psychological disorders; ethical, legal, and professional issues associated with psychological disorder diagnosis and treatment.

PSYC-370 Interpersonal Effectiveness Training

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

PSYC-371 Introduction to Health Psychology

PSYC-371 Introduction to Health Psychology

(3 cr.)

Repeatable for Credit: No

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies.

Prerequisites: must have 10 credits in PSYC courses

PSYC-372 Psychology of Sex and Gender

PSYC-372 Psychology of Sex and Gender

(3 cr.)

Repeatable for Credit: No

Differences and similarities between females and males; psychosocial implications on personal and political status and the resulting influence on identity and self-concept.

PSYC-375 The Psychology of Marriage and The Family

PSYC-375 The Psychology of Marriage and The Family

(2 cr.)

Repeatable for Credit: No

A study of the interpersonal relations involved in dating, mating and family collaboration with growing awareness of patterns for self-integration.

PSYC-377 Consumer Psychology

PSYC-377 Consumer Psychology

(3 cr.)

Repeatable for Credit: No

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Prerequisite: Take PSYC-110

PSYC-379 Public Relations

PSYC-379 Public Relations

(2 cr.)

Repeatable for Credit: No

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

PSYC-381 Psychology in the Workplace

PSYC-381 Psychology in the Workplace

(3 cr.)

Repeatable for Credit: No

Application of psychological principles to the workplace, with emphases on assessment of cognitive, physical and interpersonal abilities, employee selection, training and development methods, and development of organizational methods for improved motivation, job satisfaction, leadership and organizational effectiveness.

PSYC-382 Human Resource Management

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

PSYC-390 Experimental Psychology

PSYC-390 Experimental Psychology

(4 cr.)

Repeatable for Credit: No

Experimental research methods used in basic and applied areas of psychology. Methodological issues introduced in context of actual research problems for integrated treatment of content and methodology. Students will apply this knowledge by participating in laboratory activities and designing and conducting their own experiments.

Prerequisites: take PSYC 190 and STAT 130 or higher

PSYC-391 Applied Psychophysiological Methods

PSYC-391 Applied Psychophysiological Methods

(3 cr.)

Repeatable for Credit: No

Theory, methods, laboratory procedures, and applications of physiological responses to psychological stimuli.

Prerequisite: take BIO-132

PSYC-398 Psychology Field Experience

PSYC-398 Psychology Field Experience

(2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

Department Consent

PSYC-399 Independent Study

PSYC-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

PSYC-401 Workshop: Special Topics in Psychology

PSYC-401 Workshop: Special Topics in Psychology

(1-3 cr.)

Repeatable for Credit: Yes

Current specialized topics studied in a small group setting utilizing experimental activities.

Instructor's Consent Required

PSYC-403 Management of Employee Reward Systems

PSYC-403 Management of Employee Reward Systems

(3 cr.)

Repeatable for Credit: No

Issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits.

Prerequisite: take PSYC-382

PSYC-432 Perception

PSYC-432 Perception

(3 cr.)

Repeatable for Credit: No

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

PSYC-442 Cognitive Processes

PSYC-442 Cognitive Processes

(3 cr.)

Repeatable for Credit: No

Cognitive theories of attention, memory, language, reasoning and problem solving with applications to fields of education, vocational rehabilitation, gerontology, forensic, clinical and counseling psychology.

Prerequisite: Take PSYC-110

PSYC-449 Cooperative Education Experience

PSYC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved off-campus position to gain professional/business/industrial experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Must be a Psychology major & have a 2.5 GPA

PSYC-451 Children's Learning

PSYC-451 Children's Learning

(3 cr.)

Repeatable for Credit: No

Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified; discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language.

Prerequisite: Take PSYC-110

PSYC-470 Social Influence

PSYC-470 Social Influence

(3 cr.)

Repeatable for Credit: No

Types of social influence and analysis of historical and contemporary approaches to the study of social influence. Techniques and impact of social influence in everyday life and resistance to unwanted social influence.

Prerequisite: take PSYC-110

PSYC-480 Individual Research Project I

PSYC-480 Individual Research Project I

(1 cr.)

Repeatable for Credit: Yes

Preliminaries of active research through the development of a research proposal which includes the problem statement, review of the literature and the design of the research project.

Department Consent

Prerequisites: take PKG-210 and PSYC-490

PSYC-481 Individual Research Project II

PSYC-481 Individual Research Project II

(1 cr.)

Repeatable for Credit: Yes

Research in a personal area of interest within the behavioral sciences. Requirements include the completion of a research report which meets APA guidelines.

Department Consent

Prerequisite: take PSYC-480

PSYC-485 Recruitment & Selection of Human Resources

PSYC-485 Recruitment & Selection of Human Resources

(3 cr.)

Repeatable for Credit: No

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development.

Prerequisite: take PSYC 381 or PSYC-382

PSYC-490 Research Practicum

PSYC-490 Research Practicum

(4 cr.)

Repeatable for Credit: No

Research methods used in basic and applied areas of psychology. Methodological issues introduced in context of actual research problems for integrated treatment of content and methodology. Students will apply this knowledge by designing and conducting their own psychological research.

Prerequisites: take PSYC 290

PSYC-498 Psychology Field Experience

PSYC-498 Psychology Field Experience

(2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

Department Consent

PSYC-499 Independent Study

PSYC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Reading Education

RDGED-382 Content Area Reading

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

RDGED-414 Literacy Instruction and Assessment in the Primary Grades

RDGED-414 Literacy Instruction and Assessment in the Primary Grades

(5 cr.)

Repeatable for Credit: No

Balanced approach to scientifically based literacy instruction in the primary grades to include theoretical frameworks of literacy learning, program organization, effective instructional strategies, assessments, and informal evaluation techniques as related to instructional planning. Phonemic awareness, phonics, word study, fluency, comprehension, and vocabulary instruction.

Prerequisites for BS ECE students: ECE-421, ECE-435, and ECE-480 Prerequisites for BS Spec Ed students: completion of Benchmark I

Risk Control

RC-149 Cooperative Education Experience

RC-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

RC-249 Cooperative Education Experience

RC-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

RC-271 Safety Principles and Practices

RC-271 Safety Principles and Practices

(3 cr.)

Repeatable for Credit: No

Principles of accident prevention; school safety programs; identification of resources and content: motor vehicle, home, public, farm, industrial, school, recreational and civil defense.

Department Consent

RC-301 Context of Current Traffic Safety Education

RC-301 Context of Current Traffic Safety Education

(1 cr.)

Repeatable for Credit: No

Structured analysis of regulatory, curricular and societal issues in traffic safety education.

RC-301 Current Issues in Traffic Safety Education

RC-301 Current Issues in Traffic Safety Education

(1 cr.)

Repeatable for Credit: Yes

Structured analysis of regulatory and curricular issues for traffic safety educators.

RC-301 Workshop: Traffic Safety Education Techniques and Management

RC-301 Workshop: Traffic Safety Education Techniques and Management

(1 cr.)

Repeatable for Credit: No

Structured analysis of program management, regulatory, and curricular issues for which traffic safety educators should be conversant.

RC-371 Alcohol, Drugs and Accident Prevention

RC-371 Alcohol, Drugs and Accident Prevention

(3 cr.)

Repeatable for Credit: No

Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers.

Department Consent

RC-372 Behavior Approach to Accident Prevention

RC-372 Behavior Approach to Accident Prevention

(3 cr.)

Repeatable for Credit: No

Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior.

Department Consent

RC-374 Driver Education Laboratory Methods and Techniques

RC-374 Driver Education Laboratory Methods and Techniques

(3 cr.)

Repeatable for Credit: No

Role, aims and objectives of laboratory programs in driver and traffic safety education; multiple- student teaching techniques, simulation on-street behind-the-wheel and multiple-car driving range experiences provided.

Department Consent

RC-375 Driver And Traffic Safety

RC-375 Driver And Traffic Safety

(3 cr.)

Repeatable for Credit: No

Classroom phase of driver education: curriculum selection and use, instructional resources and materials, and driver education administration.

Department Consent

RC-381 Principles of Occupational Risk Control/Safety

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

RC-383 Occupational Safety and Health Standards

RC-383 Occupational Safety and Health Standards

(3 cr.)

Repeatable for Credit: No

Understanding and proper application of a range of regulations and standards relating to occupational safety and health.

RC-386 Fire Protection

RC-386 Fire Protection

(2 cr.)

Repeatable for Credit: No

Behavior of fire: chemistry, protection, prevention and control.

RC-387 Human Factors Engineering/Ergonomics

RC-387 Human Factors Engineering/Ergonomics

(3 cr.)

Repeatable for Credit: No

Physiological and psychological abilities in human/machine interface, working performance, reliability, comfort and safety; effective design of people and work environment as a cybernetic system.

RC-388 Construction Safety

RC-388 Construction Safety

(3 cr.)

Repeatable for Credit: No

Overview of construction safety and health, including identification of the most common occupational hazards associated with the construction industry. Emphasis is on evaluating hazards, choosing appropriate controls to protect workers, and developing strategies for implementing these controls into effective management systems.

RC-389 Fleet Risk Control Management

RC-389 Fleet Risk Control Management

(3 cr.)

Repeatable for Credit: No

Logistically-oriented management systems required to control risk in fleet operations including internal standards development/analysis, emergency response, accident analysis, loss benchmarking, driver selection and training, vehicle operation, substance abuse testing, hours of service, vehicle maintenance/inspection, route planning, cargo/ personnel security, hazardous materials transportation, and regulatory controls.

Prerequisite: take either RC-381 or RC-388

RC-392 Construction Risk Management

RC-392 Construction Risk Management

(3 cr.)

Repeatable for Credit: No

Analysis and application of fundamental process steps for construction job site risk management.

Prerequisite: take RC-388

RC-395 Emergency Preparedness and Response

RC-395 Emergency Preparedness and Response

(3 cr.)

Repeatable for Credit: No

Specific emergency response plans that meet federal, state and local regulations.

RC-440 Environmental Leadership & Sustainable Management

RC-440 Environmental Leadership & Sustainable Management

(3 cr.)

Repeatable for Credit: No

Examination and evaluation of topics related to environmental regulations, environmental leadership and sustainability management. Environmental and sustainability issues and management challenges will be analyzed and synthesized to provide a fundamental understanding of environmental regulations and management strategies to promote environmental protection and sustainability management.

Prerequisite: Take RC-383

RC-449 Cooperative Education Experience

RC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

RC-499 Independent Study

RC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: No

Department consent

Russian

RUS-101 Elementary Russian I

RUS-101 Elementary Russian I

(4 cr.)

Repeatable for Credit: No

Establish a solid foundation in the fundamentals of the Russian language through the development of speaking, listening, reading and writing skills; foster interest in the language and culture of Russia.

School Counseling

SCOUN-299 Independent Study

SCOUN-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SCOUN-301 Introduction to Counseling for Partners in Education

SCOUN-301 Introduction to Counseling for Partners in Education

(2 cr.)

Repeatable for Credit: No

Partnership between educators and counseling professionals. History, needs and trends, classroom management/theory overview, professional associations and standards, legal and ethical issues, and characteristics and behaviors that influence helping processes.

SCOUN-400 Workshop: Counseling/Psychological Services

SCOUN-400 Workshop: Counseling/Psychological Services

(1-3 cr.)

Repeatable for Credit: Yes

SCOUN-405 Emerging Issues in School Counseling

SCOUN-405 Emerging Issues in School Counseling

(2 cr.)

Repeatable for Credit: No

Identify, explore and research issues and trends impacting practice and resources in school counseling. Student must be currently employed in a school setting or licensed to work in schools.

SCOUN-447 Emotional and Behavioral Problems of Children and Adolescents

SCOUN-447 Emotional and Behavioral Problems of Children and Adolescents

(3 cr.)

Repeatable for Credit: No

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

SCOUN-499 Independent Study

SCOUN-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

School Psychology

SPSY-490 Behavioral Interventions in the Schools

SPSY-490 Behavioral Interventions in the Schools

(2 cr.)

Repeatable for Credit: No

Study and practice in Functional Behavioral Assessment and Behavioral Intervention Planning for individualized behavior problems in the PK-12 education setting using both a direct-service and consultation-collaboration model. Focus on assessment skills to produce

data-driven environmental modifications, pro-social replacement behaviors, consequence strategies, and home-school interventions.

SUST-425 Sustainable Design & Development Capstone

SUST-425 Sustainable Design & Development Capstone

(3 cr.)

Repeatable for Credit: No

Application and study of sustainable design and development through the solution of a community-based project. Design of a triple bottom line solution to industrial problems will be emphasized.

Prerequisite: Must be Senior level or higher

Science Education

SCIED-409 Broadfield Science Student Teaching

SCIED-409 Broadfield Science Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Student teaching experiences in science education.

Prerequisites: Benchmark I completed and Senior level

SCIED-410 Biology Student Teaching

SCIED-410 Biology Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Student teaching experience in biology.

Prerequisite: Benchmark II completion

SCIED-411 Chemistry Student Teaching

SCIED-411 Chemistry Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Student teaching experience in chemistry.

Prerequisite: Benchmark II completion

SCIED-412 Physics Student Teaching

SCIED-412 Physics Student Teaching

(2-16 cr.)
Repeatable for Credit: No
Student teaching experience in physics.
Prerequisite: Benchmark II completion

SCIED-413 Earth and Space Science Student Teaching

SCIED-413 Earth and Space Science Student Teaching

(2-16 cr.)
Repeatable for Credit: No
Student teaching experience in Earth and space science.
Prerequisite: Benchmark II completion

SCIED-414 Environmental Science Student Teaching

SCIED-414 Environmental Science Student Teaching

(2-16 cr.)
Repeatable for Credit: No
Student teaching experience in environmental science.
Prerequisite: Benchmark II completion

SCIED-419 Broadfield Science Teaching Internship

SCIED-419 Broadfield Science Teaching Internship

(2-16 cr.)
Repeatable for Credit: No
Internship experience in teaching broadfield science.
Prerequisite: Benchmark II completion

SCIED-420 Biology Teaching Internship

SCIED-420 Biology Teaching Internship

(2-16 cr.)
Repeatable for Credit: No
Internship experience in teaching biology.
Prerequisite: Benchmark II completion

SCIED-421 Chemistry Teaching Internship

SCIED-421 Chemistry Teaching Internship

(2-16 cr.)
Repeatable for Credit: No

Internship experience in teaching chemistry.
Prerequisite: Benchmark II completion

SCIED-422 Physics Teaching Internship

SCIED-422 Physics Teaching Internship

(2-16 cr.)
Repeatable for Credit: No
Internship experience in teaching physics.
Prerequisite: Benchmark II completion

SCIED-423 Earth and Space Science Teaching Internship

SCIED-423 Earth and Space Science Teaching Internship

(2-16 cr.)
Repeatable for Credit: No
Internship experience in teaching earth and space science.
Prerequisite: Benchmark II completion

SCIED-424 Environmental Science Teaching Internship

SCIED-424 Environmental Science Teaching Internship

(2-16 cr.)
Repeatable for Credit: No
Internship experience in teaching environmental science.
Prerequisite: Benchmark II completion

SCIED-488 Internship Teaching - Science Education

SCIED-488 Internship Teaching - Science Education

8-(16 cr.)
Repeatable for Credit: No
Alternative to student teaching experience: licensed and salaried internship in a cooperating school.
Department Consent
Prerequisites: Benchmark II completion and Senior level

SPED-496 Assessment and Psychology of Learning for Special Education

SPED-496 Assessment and Psychology of Learning for Special Education

(3 cr.)

Repeatable for Credit: No

Overview of theories, laws and processes that guide special education assessment, eligibility and instruction.

Science, Technology and Mathematics Education

STMED-101 Introduction to Math and Science Education

STMED-101 Introduction to Math and Science Education

(2 cr.)

Repeatable for Credit: No

Overview of math and science education programs, roles and responsibilities of math and science teachers, state and professional standards, history of math and science education, professional resources, curriculum, instruction, assessment, and classroom management.

STMED-160 Introduction to Technology and Science Education

STMED-160 Introduction to Technology and Science Education

(3 cr.)

Repeatable for Credit: No

Survey of technology and science teaching, including teachers' responsibilities, curriculum, literature, current issues and organizations associated with the profession and teaching within K- 12 schools.

STMED-185 Pre-Student Teaching

STMED-185 Pre-Student Teaching

(1 cr.)

Repeatable for Credit: No

Introductory field experience and seminar includes observing, analyzing, and experiencing teaching in a public school setting. Minimum of 50 hours completed.

Prerequisite: Background check required.

STMED-260 Curriculum Methods & Assessment for Science & Technology

STMED-260 Curriculum Methods & Assessment for Science & Technology

(3 cr.)

Repeatable for Credit: No

Development of rationales, goals, content outlines, outcomes, objectives, activities, and assessment items.

Prerequisite: take STMED-101 or STMED-160

STMED-360 Pre-Student Teaching in Science Technology and Math Education

STMED-360 Pre-Student Teaching in Science Technology and Math Education

(1 cr.)

Repeatable for Credit: No

Observing, analyzing, experiencing, and reflecting on teaching in public school settings for STMED pre-service teachers.

Department Consent

Prerequisites: Take STMED-101 or STMED-160, Benchmark 1 must be complete & background check is required.

STMED-390 Laboratory and Classroom Management in Science and Technology

STMED-390 Laboratory and Classroom Management in Science and Technology

(3 cr.)

Repeatable for Credit: No

Laboratory and classroom management strategies, conflict resolution, syllabi, paperwork, grading, communication, managing facilities and equipment, purchasing, maintenance, storage, lab and material safety, safety equipment, liability, and negligence.

Prerequisite: Benchmark I Completed

STMED-401 Capstone: Math and Science Education

STMED-401 Capstone: Math and Science Education

(1 cr.)

Repeatable for Credit: No

Synthesis of material learned in the math and science education program and study of educational research, evidence-based practice, and professional development.

Prerequisite: Benchmark I completion

STMED-460 Teaching Methods for Science and Technology Education

STMED-460 Teaching Methods for Science and Technology Education

(3 cr.)

Repeatable for Credit: No

Development and implementation of lessons, demonstrations, learning activities, and formative assessments.

Prerequisites: Benchmark I completion and STMED-260

Service Management

SRVM-111 Introduction to Global Service Management-HT

SRVM-111 Introduction to Global Service Management-HT

(3 cr.)

Repeatable for Credit: No

Principles of service management with emphasis on trends, career opportunities, and global economic impact of service sectors.

SRVM-149 Cooperative Education Experience

SRVM-149 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

SRVM-249 Cooperative Education Experience

SRVM-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

SRVM-349 Cooperative Education Experience

SRVM-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

SRVM-354 Services Marketing Management-Ht

SRVM-354 Services Marketing Management-Ht

(3 cr.)

Repeatable for Credit: No

Marketing management concepts, issues and terminology unique to the service sector. Strategies used by service marketers will be

analyzed and contrasted with other economic sectors.
Prerequisites: take HT-344 or BUMKG-330

SRVM-398 Service Management Field Experience

SRVM-398 Service Management Field Experience

(1-2 cr.)

Repeatable for Credit: No

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

SRVM-410 Electronic Service Management-Ht

SRVM-410 Electronic Service Management-Ht

(3 cr.)

Repeatable for Credit: No

Overview, identification, and evaluation of service management components of electronic commerce relationships within the market/workplace.

SRVM-420 International Service Concepts

SRVM-420 International Service Concepts

(3 cr.)

Repeatable for Credit: No

National and cultural constraints and expectations that impact planning, execution, and evaluation of service quality. Cultural, business, managerial and behavioral foundations supporting success in an international service context.

Prerequisite: take SRVM-111

SRVM-449 Cooperative Education Experience

SRVM-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

SRVM-498 Service Management Field Experience-HT

SRVM-498 Service Management Field Experience-HT

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

Department Consent

Must be Senior level or higher

SRVM-499 Independent Study

SRVM-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Social Work

SOCWK-205 Introduction To Social Work and Social Welfare Policy

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work. Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

SOCWK-397 Native American Service-Learning Partnership Course

SOCWK-397 Native American Service-Learning Partnership Course

(3 cr.)

Repeatable for Credit: No

Service-learning and undergraduate research course to apply cultural competence, child development practices, applied theories, historical milestones, research techniques, and engagement methods to a service experience. Mutually-beneficial, educationally-based mentorship intervention with at-risk youth at a tribal school.

SOCWK-420 Human Behavior in the Social Environment

SOCWK-420 Human Behavior in the Social Environment

(3 cr.)

Repeatable for Credit: No

Biological, ecological, sociological, psychological, cultural, and spiritual development throughout the life cycle. Human development with the social environment emphasis from micro (individuals), mezzo (groups and families), and macro (community and organizations) perspectives and various theoretical frameworks. Apply core social work competencies.

SOCWK-430 Social Work Practice Methods:Individuals

SOCWK-430 Social Work Practice Methods:Individuals

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of individuals (micro) social work practice: client interviewing, evidence-based assessments and interpersonal skills. Linkage to families, groups and communities/organizations. Apply social work competencies.

SOCWK-440 Social Work Practice Methods:Groups and Families

SOCWK-440 Social Work Practice Methods:Groups and Families

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of groups/families (mezzo) social work practice: group dynamics and processes, group development and family dynamics with intervention strategies. Linkage to individuals and communities/organizations. Apply core social work competencies.

SOCWK-450 Social Work Practice Methods: Communities & Organizations

SOCWK-450 Social Work Practice Methods: Communities & Organizations

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of communities and organizations (macro) social work practice: advocacy, community needs assessments, coalitions, board of directors, leadership, fundraising and policy. Linkage to individuals and groups with families. Apply core social work competencies.

SOCWK-497 Leadership, Service, and Research with Native American Youth

SOCWK-497 Leadership, Service, and Research with Native American Youth

(3 cr.)

Repeatable for Credit: No

This course will advance students' leadership abilities, research skills, and civic engagement awareness. Students of this course will help mentor students enrolled in SOCWK 397: Native American Service-Learning Partnership Course which implements a person-centered, research-driven, theory-grounded, culturally-sensitive, educationally-based mentorship intervention with at-risk Native American youth at their tribal school.

SOCWK-499 Independent Study

SOCWK-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Sociology

SOC-110 Introductory Sociology

SOC-110 Introductory Sociology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Introduction to sociological theories and methods in the study of social groups, interaction, inequality, and institutions. The place of the U.S. in a global context; comparisons of contemporary U.S. society with other societal and historical contexts. Processes of social location and inequalities, especially those pertaining to race/ethnicity.

SOC-199 Independent Study

SOC-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SOC-225 Social Problems

SOC-225 Social Problems

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological analysis of current social problems in the U.S. and the world.

SOC-230 Sexualities in Historical and Social Perspective

SOC-230 Sexualities in Historical and Social Perspective

(3 cr.)

Racial & Ethnic Studies Category B, Cross-disciplinary Issues

Repeatable for Credit: No

Sociology and history of sexual identities and categories and their uses to justify public policy; the normative and institutional context of how power is exercised in relation to sexuality, especially the stratification of society based on sexuality. Contemporary controversies such as gay marriage and other civil rights issues.

Must be Sophomore level or higher

SOC-230 Sexualities in Historical and Social Perspective

SOC-230 Sexualities in Historical and Social Perspective

(3 cr.)

Racial & Ethnic Studies Category B, Cross-disciplinary Issues

Repeatable for Credit: No

Sociology and history of sexual identities and categories and their uses to justify public policy; the normative and institutional context of how power is exercised in relation to sexuality, especially the stratification of society based on sexuality. Contemporary controversies such as gay marriage and other civil rights issues.

SOC-249 Cooperative Education Experience

SOC-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

SOC-275 Sociology of Gender Roles

SOC-275 Sociology of Gender Roles

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Sociological analysis of social roles played by the sexes.

SOC-290 Global Political Ecology

SOC-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

SOC-291 Sociology of Health and Illness

SOC-291 Sociology of Health and Illness

(3 cr.)

Racial and Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Sociological approaches to health and illness, both domestically and globally, with special emphasis on race and health. Topics include the social distribution of illness; health disparities across race/class/gender; global comparisons in the health of populations; the social construction of illness; the history and structure of health care systems and institutions; and various historical and contemporary health care debates. Health and illness will be considered throughout in terms of social justice and responsibility.

SOC-293 Environmental Justice

SOC-293 Environmental Justice

(3 cr.)

Racial & Ethnic Studies Category A, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Environmental racism; socio-economic inequality and exposure to environmental hazards; race, class, and environmental suffering; grassroots activism and opposition to environmental inequality and racism, particularly among U.S. minority groups; incorporation of environmental justice principles into public policy and corporate decision-making.

SOC-299 Independent Study

SOC-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SOC-315 Criminology

SOC-315 Criminology

(3 cr.)

Repeatable for Credit: No

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system.

Prerequisite: take SOC-110

SOC-325 Society and Leisure

SOC-325 Society and Leisure

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Explanations of recreation and leisure structures and processes from multiple theories within sociology and economics; comparative case studies of recreation and leisure; ethical implications of how recreation and leisure are encouraged and pursued in a modern capitalist system, considering various philosophical perspectives of justice.

SOC-330 Social Theory

SOC-330 Social Theory

(3 cr.)

Repeatable for Credit: No

Learning and applying advanced sociological and anthropological theories to social issues. Understanding various tools of explanation in the social sciences, as well as their origins, assumptions, and specific ways-of-knowing. Building a theoretical toolkit with the ability to compare, evaluate and synthesize theories for particular applications.

SOC-340 Sociology of Work

SOC-340 Sociology of Work

(3 cr.)

Repeatable for Credit: No

Human behavior in various types of employment and occupations; trends in U.S. occupational structure.

SOC-349 Cooperative Education Experience

SOC-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

SOC-350 Sociology of Hmong Culture

SOC-350 Sociology of Hmong Culture

(1 cr.)

Repeatable for Credit: No

Sociological overview of Hmong cultural values, history, immigration and resettlement experiences, family and clan functions, and spiritual beliefs and practices.

SOC-355 Social Psychology

SOC-355 Social Psychology

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Sociological theory and approaches to interaction, the social construction of meaning, and identities. Explore the intersections of social structure, culture, and the self. Application to contemporary social issues.

SOC-360 Sociology of Juvenile Delinquency

SOC-360 Sociology of Juvenile Delinquency

(3 cr.)

Repeatable for Credit: No

Theories of delinquency, criminal behavior, and social control in relation to modern institutions in American culture.

Prerequisite: take SOC-110

SOC-375 Sociology Of Minority Groups

SOC-375 Sociology Of Minority Groups

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

SOC-385 Globalization and Social Change

SOC-385 Globalization and Social Change

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Explanations of globalization processes and global governance from multiple perspectives among the social sciences, including sociology and economics; historical origins of global processes and structures; global social change and resistance; ethical implications of globalization outcomes regarding perspectives and distributions of justice.

SOC-399 Independent Study

SOC-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SOC-400 Sociology of Altruism

SOC-400 Sociology of Altruism

(3 cr.)

Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological perspective of altruism explored in the context of volunteer public service, and biographies of exemplary public service participants.

Department Consent

Prerequisite: Acceptance into University Honors Program

SOC-410 Sociology of Thailand's Minority Groups: Study Abroad Program

SOC-410 Sociology of Thailand's Minority Groups: Study Abroad Program

(4 cr.)

Global Perspective

Repeatable for Credit: No

Study abroad program to Thailand. In-depth experiential learning of Thai minority cultures, including religions, socio-political status, Buddhism, health, education, trafficking of women and children, limited citizenship status, and poverty. Field trips to villages, nongovernmental agencies, schools, and clinics.

SOC-449 Cooperative Education Experience

SOC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

SOC-499 Independent Study

SOC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Spanish

SPAN-101 Elementary Spanish I

SPAN-101 Elementary Spanish I

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Develop a solid foundation in the fundamental elements of Spanish: listening, speaking, reading, and writing. Cultures of Spanish-speaking peoples throughout the world, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Not available for credit to students who took SPAN-121 or SPAN-122.

Prerequisite: Not available for credit to students who took SPAN-121 or SPAN-122

SPAN-102 Elementary Spanish II

SPAN-102 Elementary Spanish II

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Second level of understanding, speaking, reading and writing in Spanish. topics in the culture of Spanish-speaking people, including those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers. Requires one year of H.S. Spanish or SPAN-101 or SPAN-122.

Prerequisite: Spanish Placement Test or SPAN-101

SPAN-121 Practical Spanish I

SPAN-121 Practical Spanish I

(2 cr.)

Repeatable for Credit: No

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in Hispanic and Hispanic-American cultural context. Not available for credit to students who took SPAN-101.

Not for credit to students who took SPAN-101.

SPAN-122 Practical Spanish II

SPAN-122 Practical Spanish II

(2 cr.)

Communication Skills

Repeatable for Credit: No

Second quarter college Spanish. Vocabulary, conversational patterns, irregular present tense verbs, regular and some irregular preterit verbs; object pronouns. Spanish language in the context of Hispanic culture. Not available for credit to students who took SPAN-101. One semester of H.S. Spanish or SPAN-121 is required.

Prerequisite: take SPAN-121; not available for credit to students who took SPAN-101.

SPAN-201 Intermediate Spanish I

SPAN-201 Intermediate Spanish I

(3 cr.)

Global Perspective, Communication Skills, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation and recognition of verb tenses. Readings and class discussion based on historical background and contemporary Hispanic life, including Hispanic culture in the United States. Typically appropriate for students that have taken two years of H.S. Spanish or completed SPAN-102.

Prerequisite: Spanish Placement Test or SPAN-102

SPAN-202 Intermediate Spanish II

SPAN-202 Intermediate Spanish II

(3 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Complete grammar review of standard Spanish, applicable to both conversational situations and business or personal correspondence. Culture of Spanish-speaking peoples (short narratives, music, art) from around the globe. Knowledge of key

historical and cultural characteristics of Spanish-speaking peoples via listening, reading, speaking, and writing. Typically appropriate for students that have taken two years of H.S. Spanish or completed SPAN-102. The Department highly recommends taking SPAN 201 before SPAN-202.

Prerequisites: Spanish Placement Test or SPAN-102.

SPAN-204 Latin American Short Story

SPAN-204 Latin American Short Story

(3 cr.)

Global Perspective, Communication Skills, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Introduction to the 20th and 21st century Latin American short story. Vocabulary and readings in Spanish of prominent authors and distinct literary periods of this genre. Related historical and cultural contexts within broader global settings. Taught in Spanish.

Typically appropriate for students who have taken 4 years of H.S. Spanish or SPAN 102. The Department highly recommends taking SPAN 201 and SPAN 202 before SPAN-204.

Prerequisite: Spanish Placement Test or SPAN 102

SPAN-218 Cinema for Spanish Proficiency

SPAN-218 Cinema for Spanish Proficiency

(3 cr.)

Global Perspective

Repeatable for Credit: No

Spanish course on topics for language practice. Outstanding films from the Spanish-speaking world on themes of cultural relevance and global repercussions; advanced composition; advanced conversation and discussion. Taught in Spanish. The Department highly recommends taking SPAN 201 and SPAN 202 before SPAN-218.

Prerequisite: Spanish Placement Test or take SPAN 102

SPAN-220 Business Spanish

SPAN-220 Business Spanish

(3 cr.)

Develop students' ability to communicate in Spanish used for professional purposes. Extensive grammar review paired with specialized business terminology needed to communicate in the workplace. Commercial culture in the Spanish-speaking world in order to facilitate occupational relations in Spanish.

Prerequisite: take SPAN 102 or equivalent

SPAN-227 Spanish Composition and Conversation I

SPAN-227 Spanish Composition and Conversation I

(3 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Advanced grammar review. Introduction to composition. Writing paragraphs and short essays. Advanced conversation. Emphasis on native-like pronunciation, vocabulary, structural fluency, and cultural awareness and sensitivity vis-a-vis Spanish-speaking peoples

around the globe. Typically appropriate for students who have taken four years of H.S. Spanish or completed SPAN 202. The Department highly recommends taking SPAN 202 before SPAN-227.

Prerequisite: Spanish Placement Exam or SPAN 102

SPAN-229 Hispanic Literature in America

SPAN-229 Hispanic Literature in America

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Communication Skills, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Themes and techniques of Hispanic literature. Vocabulary in Spanish for discussion of a variety of literary genres. Narratives grounded in historical, racial, and cultural contexts from throughout the Spanish-speaking locales in the United States. Emphasis on increasing oral and written fluency in Spanish. Typically appropriate for students who have taken 4 years of H.S. Spanish or SPAN 202. The Department highly recommends taking SPAN 227 before SPAN-229.

Prerequisite: Spanish Placement Test or SPAN-202.

SPAN-296 Business Spanish in Oaxaca

SPAN-296 Business Spanish in Oaxaca

(3 cr.)

Racial and Ethnic Studies Category A, Global Perspective, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Study abroad course. Communicate in Spanish for professional purposes. Extensive grammar review, paired with specialized business terminology to communicate in the workplace. Cultivation of knowledge of commercial culture in the Spanish-speaking world, in order to facilitate occupational relations in Spanish.

Prerequisite: Take SPAN 201

SPAN-296 Mestizaje: Myth and Reality of the Mexican Nation-State

SPAN-296 Mestizaje: Myth and Reality of the Mexican Nation-State

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Study abroad course. Interrogation of the foremost organizing myth of the Mexican nation-state: mestizaje or, miscegenation. Study of seminal texts from Mexican authors, while visiting archaeological and cultural sites within the state of Oaxaca. Race as a central category for structuring social and economic relations while honing students' reading, writing, and speaking skills in Spanish.

Prerequisite: Take SPAN 201

SPAN-299 Independent Study

SPAN-299 Independent Study

(1-3 cr.)

Global Perspective

Repeatable for Credit: Yes

Department Consent

SPAN-399 Independent Study

SPAN-399 Independent Study

(1-3 cr.)

Global Perspective

Repeatable for Credit: Yes

Department Consent

SPAN-499 Independent Study

SPAN-499 Independent Study

(1-3 cr.)

Global Perspective

Repeatable for Credit: Yes

Department Consent

Special Education

SPED-100 Introduction to Special Education

SPED-100 Introduction to Special Education

(1 cr.)

Repeatable for Credit: No

Introduction to the special education profession. Survey of the history, philosophy, mission, legislation, issues, organization, and resources associated with the profession; and introduction to the professional standards and content guidelines.

SPED-199 Independent Study

SPED-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SPED-299 Independent Study

SPED-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SPED-300 Introduction to Individuals with Cognitive Disabilities

SPED-300 Introduction to Individuals with Cognitive Disabilities

(3 cr.)

Repeatable for Credit: No

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons.

SPED-301 Learning Disabilities

SPED-301 Learning Disabilities

(3 cr.)

Repeatable for Credit: No

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults.

SPED-305 Introduction to Early Childhood Special Education

SPED-305 Introduction to Early Childhood Special Education

(3 cr.)

Repeatable for Credit: No

History and purpose of Early Childhood Special Education. Programming; legislation; population receiving services; adaptations; strategies; family intervention; intervention models; inclusion of all students in the natural environment or least restrictive environment.

SPED-310 ECSE Methods, Materials and Curriculum

SPED-310 ECSE Methods, Materials and Curriculum

(3 cr.)

Repeatable for Credit: No

Curricular and methodological adaptation; embedding goals and objectives for young children with exceptional needs in the areas of social-emotional development, motor skills, self-help skills, communication, cognitive development.

SPED-315 Early Childhood Special Education Organization and Implementation

SPED-315 Early Childhood Special Education Organization and Implementation

(3 cr.)

Repeatable for Credit: No

Organization and implementation of Early Childhood Special Education programs. Service delivery; itinerant services; consultation and collaboration; and intervention models.

SPED-320 Early Childhood Special Education Assessment

SPED-320 Early Childhood Special Education Assessment

(3 cr.)

Repeatable for Credit: No

Supervised practice in assessment of young children with suspected or identified developmental delays. Standardized and informal assessment instruments for screening; determining eligibility for special needs programming; and progress monitoring of early learning in early childhood children.

SPED-322 Curriculum & Instruction: Severe Disabilities

SPED-322 Curriculum & Instruction: Severe Disabilities

(2 cr.)

Repeatable for Credit: No

Curriculum and instruction strategies for teaching functional academics, personal/social, vocational, and community living skills to individual with severe and profound disabilities.

Prerequisites: take SPED-300 and SPED-430

SPED-323 Mild Disabilities: Social Studies and Science

SPED-323 Mild Disabilities: Social Studies and Science

(3 cr.)

Repeatable for Credit: No

Curriculum and methods of teaching students with mild cognitive, learning, and emotional/behavioral disabilities in the content areas of social studies, science, and in general education. Strategies that facilitate integration, improve maintenance and generalization of skills, promote transitions, increase self-awareness and self-management, and compensate for learning deficits.

SPED-324 Curriculum & Instruction: Career & Transition Education

SPED-324 Curriculum & Instruction: Career & Transition Education

(3 cr.)

Repeatable for Credit: No

Curriculum and instruction for persons with disabilities in prevocational, career education, career preparation, and transition, stressing collaboration between education, community-based service providers, and families.

SPED-326 Pre-Student Teaching: Cognitive Disabilities

SPED-326 Pre-Student Teaching: Cognitive Disabilities

(2 cr.)

Repeatable for Credit: Yes

Supervised experience in observing, planning instruction, and teaching children and youth with cognitive disabilities in a cross-categorical school environment. Repeatable three times for credit.

Department Consent

Prerequisites: Benchmark 1 completion

SPED-328 Assessment for Individual Education/ Transition Plans

SPED-328 Assessment for Individual Education/ Transition Plans

(3 cr.)

Repeatable for Credit: No

Diagnosing behavior and learning problems of students with exceptional education needs. Preparing individual educational and transitional plans based on comprehensive assessments.

Prerequisite: Benchmark I Completed

SPED-330 Introduction to Communication Disorders

SPED-330 Introduction to Communication Disorders

(3 cr.)

Repeatable for Credit: No

Nature, causes of and methods used when working with individuals who have speech and language disorders.

SPED-336 Early Childhood Special Education Pre-Student Teaching

SPED-336 Early Childhood Special Education Pre- Student Teaching

(2 cr.)

Repeatable for Credit: No

Supervised experience in teaching children with exceptionalities. Instructional practices based on knowledge of the child, family, community, and the curriculum.

Prerequisite: take SPED-305

SPED-338 Pre-Student Teaching Children/Youth with Disabilities

SPED-338 Pre-Student Teaching Children/Youth with Disabilities

(2 cr.)

Repeatable for Credit: No

Supervised experience in observing, planning instruction, and teaching children and youth with disabilities in a cross-categorical school environment.

Prerequisite: Benchmark I Completed

SPED-399 Independent Study

SPED-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SPED-420 Schools, Families and Community Collaboration

SPED-420 Schools, Families and Community Collaboration

(3 cr.)

Repeatable for Credit: No

Theory, general principles and procedures for fostering collaborative partnerships among families, professionals, students and other service providers. Focuses on families with children who have disabilities.

SPED-430 Inclusion of Students with Exceptional Needs

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

SPED-440 Diagnosis and Remediation of Literacy and Math Disabilities

SPED-440 Diagnosis and Remediation of Literacy and Math Disabilities

(4 cr.)

Repeatable for Credit: No

Curriculum, methods, assessment and remediation of teaching reading, math, and language to individuals with mild disabilities.

Strategies that assess and evaluate, monitor progress, increase, maintain and generalize skills, facilitate integration, and compensate for learning deficits in the general and special education curricula.

Prerequisites: Benchmark I completion

SPED-447 Emotional and Behavioral Problems of Children and Adolescents

SPED-447 Emotional and Behavioral Problems of Children and Adolescents

(3 cr.)

Repeatable for Credit: No

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

SPED-449 Cooperative Education Experience

SPED-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain experience in business, industry, or other. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

SPED-462 Classroom Management Techniques

SPED-462 Classroom Management Techniques

(3 cr.)

Repeatable for Credit: No

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning.

Benchmark I Completed

SPED-471 Introduction to Special Education and Professional Portfolio Development

SPED-471 Introduction to Special Education and Professional Portfolio Development

(3 cr.)

Repeatable for Credit: No

Survey of the history of the field, the philosophy of special education, the mission of the field, special education legislation and mandates, issues within the profession, influential organizations, and the basic principles of professional portfolio development.

SPED-472 Foundations of Autism Spectrum Disorder

SPED-472 Foundations of Autism Spectrum Disorder

(3 cr.)

Repeatable for Credit: No

A foundation for understanding individuals with Autism spectrum Disorders (ASD) and its effect on the individuals' life and learning, through a comprehensive overview of the history, current literature, and best practices.

SPED-473 Behavioral Interventions and Positive Behavior Supports

SPED-473 Behavioral Interventions and Positive Behavior Supports

(3 cr.)

Repeatable for Credit: No

Study functional behavioral assessment (FBA) and behavioral intervention planning (BIP) for individualized behavior problems for students with Autism Spectrum Disorder and related disabilities in the PK-12 educational setting. Focus on assessment skills to produce data-driven environmental modifications, pro-social replacement behaviors, consequence strategies, and home-school collaboration.

SPED-474 Augmentative Communication and Social Skills

SPED-474 Augmentative Communication and Social Skills

(3 cr.)

Repeatable for Credit: No

Review current literature in supporting communication and social skills for individuals with Autism Spectrum Disorder; including best practices in assessment and implementation of augmentative and alternative communication interventions.

SPED-475 Assessment and Methodology of Autism Spectrum Disorder

SPED-475 Assessment and Methodology of Autism Spectrum Disorder

(3 cr.)

Repeatable for Credit: No

Critical review of assessment methods used in the identification of Autism Spectrum Disorder. Formal and informal assessment results are utilized to create an intervention plan that is responsive to the student's individual needs.

SPED-476 Practicum in Autism Spectrum Disorder

SPED-476 Practicum in Autism Spectrum Disorder

(3 cr.)

Repeatable for Credit: No

Review of instructional techniques, adaptations, and modifications to develop individualized instruction for students with autism spectrum disorder. Aligning instruction to student learning and behavioral styles and assessment in the general education and special education settings.

Department Consent

SPED-481 Student Teaching: Special Education

SPED-481 Student Teaching: Special Education

(4-16 cr.)

Repeatable for Credit: Yes

Directed special education teaching and community experience in selected off-campus schools.

Department Consent

SPED-482 Student Teaching Early Childhood-Special Education

SPED-482 Student Teaching Early Childhood-Special Education

(4-8 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected infant-toddler, preschool, or school based programs for children with disabilities.

SPED-488 Intern Teaching: Special Education

SPED-488 Intern Teaching: Special Education

(16 cr.)

Repeatable for Credit: No

An alternative method of obtaining Special Education student teaching experience. Interns receive license to teach and salaried appointment in a cooperating school for one semester.

Department Consent

Prerequisites: take SPED-323

SPED-489 Intern Teaching Early Childhood: Special Education

SPED-489 Intern Teaching Early Childhood: Special Education

(8-16 cr.)

Repeatable for Credit: Yes

Directed teaching and community experiences in selected infant, toddler, preschool, or primary school-based programs for children with disabilities.

Prerequisite: take SPED-320

SPED-490 Behavioral Interventions and Methods

SPED-490 Behavioral Interventions and Methods

(2 cr.)

Repeatable for Credit: No

Study and practice in Functional Behavioral Assessment (FBA) and Behavioral Intervention Planning (BIP) for students with social-emotional-behavioral issues and/or autism. Targeted behavior intervention planning addressed within a larger Positive Behavioral Interventions and Supports (PBIS) service-delivery model. Focus on assessment skills to produce data-driven environmental modifications, pro-social replacement behaviors, consequence strategies, and home-school interventions.

Prerequisite: Junior status or higher

SPED-496 Foundations for Special Education Teachers

SPED-496 Foundations for Special Education Teachers

(3 cr.)

Repeatable for Credit: No

Foundations of special education, instruction and educational needs of students in each disability category. Includes legal and historical aspects, professionalism and ethics, philosophies, eligibility and educational programming.

SPED-496 Literacy and Foundations of Reading for Special Educators

SPED-496 Literacy and Foundations of Reading for Special Educators

(4 cr.)

Repeatable for Credit: No

Overview of scientifically- based literacy instruction, with an emphasis on the foundations of reading in the primary grades.

SPED-496A Classroom Design and Behavior Management

SPED-496A Classroom Design and Behavior Management

(3 cr.)

Repeatable for Credit: No

Skills and knowledge in classroom design and behavioral management in special education. Focus on prevention, intervention and problem solving for whole group instruction, as well as behavior needs of individual students.

SPED-499 Independent Study

SPED-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Statistics

STAT-130 Elementary Statistics

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

STAT-320 Statistical Methods

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

STAT-330 Probability and Statistics for Engineering and the Sciences

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

STAT-331 Probability and Mathematical Statistics I

STAT-331 Probability and Mathematical Statistics I

(3 cr.)

Repeatable for Credit: No

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, Poisson, normal, and gamma distributions.

Prerequisites: take MATH-154 or MATH-157. Prerequisite or concurrent enrollment in MATH-158

STAT-332 Probability and Mathematical Statistics II

STAT-332 Probability and Mathematical Statistics II

(3 cr.)

Repeatable for Credit: No

Point estimation. Properties of point estimators: unbiasedness, efficiency, consistency, sufficiency. The method of maximum likelihood. Basic concepts of interval estimation and hypothesis testing. Inference in one-sample and two-sample problems. Simple linear regression analysis; the method of least squares. Goodness-of-fit tests. Analysis of categorical data.

Prerequisite: take STAT-331

STAT-440 Advanced Linear Modeling-Regression and Time Series Analysis

STAT-440 Advanced Linear Modeling-Regression and Time Series Analysis

(3 cr.)

Repeatable for Credit: No

Multiple regression, inference about regression parameters, remedial regression measures, quantitative and qualitative regression, model selection/validation, nonlinear regression, neural networks, logistic and Poisson regression, generalized linear models, time series, smoothing, stochastic time series, moving average and autoregressive models, auto regressive integrated moving average (ARIMA), estimating and forecasting with time series.

Prerequisite: take STAT-332

STAT-499 Independent Study

STAT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Sustainable Management

SMGT-115 Environmental Science and Sustainability

SMGT-115 Environmental Science and Sustainability

(3 cr.)

Repeatable for Credit: No

The interrelationships between humans and the environment. Important ecological concepts, human influence on the environment, and sustainable practices to avoid or ameliorate negative impacts. Ecological concepts are used throughout to identify, understand, and provide a better understanding of how humans can more positively affect the environment in which they live.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-220 Systems Thinking

SMGT-220 Systems Thinking

(3 cr.)

Repeatable for Credit: No

Use of systems thinking to apply the concept of sustainability in various business, social, and scientific contexts. Rather than looking at a problem by analyzing component parts, students learn to analyze whole systems. Students model relationships and behaviors to identify leverage points for change.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-230 Triple Bottom Line Accounting for Managers

SMGT-230 Triple Bottom Line Accounting for Managers

(3 cr.)

Repeatable for Credit: No

Financial and managerial accounting and how this information is used. Basic preparation of financial statements and their analytical use. How accounting information is applied by managers in decision-making process helping organizations meet the triple bottom line: strong profits, healthy environment, and vital communities.

Prerequisite: MATH 118 or higher. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-235 Economics in Society and Sustainability

SMGT-235 Economics in Society and Sustainability

(3 cr.)

Repeatable for Credit: No

Economic, social, and environmental issues facing society. Traditional issues such as markets and prices (microeconomics), government economic management (macroeconomics), and international trade. Introduction of economic content into analysis of selected topics such as poverty and discrimination, the environment, and the provision of government services. Critiques of conventional economic thought, within the context of systems thinking and ecological economics, and integrated throughout the course.

Prerequisite: MATH 118 or higher. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-240 Business Communications for Sustainable Management

SMGT-240 Business Communications for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Interdisciplinary professional and technical communication course that examines rhetorical skills and strategies within the context of social, economic, and environmental sustainability careers.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-250 Sustainable Agriculture and Food Security

SMGT-250 Sustainable Agriculture and Food Security

(3 cr.)

Repeatable for Credit: No

This course offers an in-depth assessment of the economic, social, and environmental considerations of production agricultural systems that provide safe, reliable, and affordable food supplies for a growing human population. In addition to the maintenance of the economic viability of production agricultural systems, course topics will focus on: the maintenance of soil, water, and air resources; addressing issues of biodiversity loss; and, maintenance of rural community character and economies. Economic, regulatory, and public entity tools that promote sustainability in production agriculture will also be addressed.

Prerequisites: take SMGT 115 For B.S. in Sustainable Management majors only or permission of Sustainable Management program

director. Obtain valid permission number for registration.

SMGT-305 Climate Change and Sustainability

SMGT-305 Climate Change and Sustainability

(3 cr.)

Repeatable for Credit: No

This course focuses on climate change science and greenhouse gases, natural and human impacts of climate change, and sustainable and efficient strategies to limit carbon emissions. The course is divided into three major areas: 1) climate science and measured impacts, 2) modelled predictions and mitigation/adaptation strategies, 3) sustainable and carbon neutral practices. This course will emphasize not only the economics of carbon budgeting and increasing efficiency but also the human role in creating and solving climate change and the discrepancies in who, where, and what will be impacted by both climate change and the necessary solutions.

Prerequisites: take SMGT 115 For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-310 Ecology for Sustainable Management

SMGT-310 Ecology for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Interrelationships of organisms with each other and their environments. Investigation into composition and dynamics of populations, communities, ecosystems, landscapes, and the biosphere with emphasis on sustainability. Enrollment in online Sustainable Management degree program required.

Prerequisite: BIO-GXX. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-315 Global Environmental Chemistry

SMGT-315 Global Environmental Chemistry

(3 cr.)

Repeatable for Credit: No

An exploration of chemical environments as interdependent thermodynamic and kinetic systems. The system/surroundings perspectives of thermodynamics will be applied to systems of progressively larger sized in order to arrive at the comprehensive view of the global environmental system.

Prerequisite: CHEM-GXX. For B.S. in Sustainable Management majors only or with permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-320 Renewable Energy for Sustainable Management

SMGT-320 Renewable Energy for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Sustainability as it relates to the world's increasing use of energy, considering the potential harm done via greenhouse gases released

from burning fossil fuels and the prospects for large-scale implementation of more benign sources such as the sun, geothermal, wind, and water.

Prerequisite: MATH-GXX, For B.S. in Sustainable Management majors only or with permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-325 Natural Resource Management

SMGT-325 Natural Resource Management

(3 cr.)

Repeatable for Credit: No

The interdependence between natural resources associated with land, air, and water. Explores significant environmental issues regarding the policies and problems in the use and management of natural resources related to soils, vegetation, landscape within the context of social needs and sustainability.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-330 Marketing for a Sustainable World

SMGT-330 Marketing for a Sustainable World

(3 cr.)

Repeatable for Credit: No

Analysis of an organization's opportunities to develop sustainability practices as they relate to the development of product, pricing, supply and distribution channels (retail, wholesale), promotion (advertising, sales promotion, public relations) and target markets and reporting methodologies.

Prerequisite: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-331 Sustainable Organizational Finance

SMGT-331 Sustainable Organizational Finance

(3 cr.)

Repeatable for Credit: No

Introduction to the theory and methods of sustainable organizational finance. Topics include financial statements; discounting and budgeting; uncertainty and risk/reward trade-offs; and assessing financial implications of the triple bottom line (e.g., climate change, carbon trading, human resource management, and creating environmentally-conscious shareholder value).

Prerequisites: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-332 Economics of Environmental Sustainability

SMGT-332 Economics of Environmental Sustainability

(3 cr.)

Repeatable for Credit: No

Interaction between market activity and the environment, applies economic analysis to the efficient and sustainable management of environmental goods and resources, and examines how economic institutions and policies can be changed to bring the environmental impacts of economic decision-making more into balance with human desires and the needs of the ecosystem.

Prerequisite: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

valid permission number for registration.

SMGT-335 Management and Environmental Information Systems

SMGT-335 Management and Environmental Information Systems

(3 cr.)

Repeatable for Credit: No

This course presents an overview different technologies and information systems used in modern organizations. It covers various information systems for analyzing organizational data and processes. It presents tools for managing projects, promoting collaboration, and teamwork in the workplace. This course provides students hands-on experience with the information systems and technology tools. It also covers technologies that promote sustainability and includes topics such as green computing and low-carbon technologies.

Prerequisites: Take SMGT-230. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-340 Organizational Behavior and Sustainability

SMGT-340 Organizational Behavior and Sustainability

(3 cr.)

Repeatable for Credit: No

Management principles and theories underlying human behavior in organizations are investigated. Topics include personality, motivation, communication, decision-making, leadership, teamwork, ethics, power, diversity, and work stress. Constraints and opportunities of an "eco" friendly organization and realized.

Prerequisite: Introductory Speech/Communication course. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-350 Operations Management and Sustainability

SMGT-350 Operations Management and Sustainability

(3 cr.)

Repeatable for Credit: No

The role of the operations function in an organization; linear programming; continuous and intermittent production processes; aggregate planning; inventory control; materials management; scheduling; project management; quality assurance; operations for green enterprises.

Prerequisites: take STAT 130 and MATH 118 or higher. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-360 Environmental and Sustainability Policy

SMGT-360 Environmental and Sustainability Policy

(3 cr.)

Repeatable for Credit: No

Topics include the spectrum of historical, theoretical and technical issues applicable to sustainable management of natural resources, environmental quality standards and risk management. Administrative structures the form the basis for selecting appropriate

responses to complex management problems faced by industry, government and non-governmental agencies are identified. The historical development and current framework of public policy are investigated, and specific foundational legislation is critiqued.

Prerequisites: take SMGT-115. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-370 Logistics, Supply Chain Management, and Sustainability

SMGT-370 Logistics, Supply Chain Management, and Sustainability

(3 cr.)

Repeatable for Credit: No

Concepts, functions, processes, and objectives of logistics and supply chain management activities. Activities involved in moving raw materials, inventory, and finished goods from point of origin to point of use or consumption. Planning, organization and controlling such activities. The role of supply chain processes in creating sustainable competitive advantage with respect to quality, flexibility, lead-time, and cost. Customer service, inventory management, transportation, warehousing, supply; chain management, reverse logistics, green supply chains, and international logistics.

Prerequisite: take STAT 130. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-410 Corporate Social Responsibility and Sustainability

SMGT-410 Corporate Social Responsibility and Sustainability

(3 cr.)

Repeatable for Credit: No

Corporate Social Responsibility (CSR) and the organization: First and foremost, this course will enable students to understand the rationale behind CSR and sustainability. This course takes students through an evaluation of risks and potential impacts in decision making, enabling them to recognize the links between the success of an organization and the well-being of a community/society. Additionally, methods and standards of integrating CSR throughout an organization, creating metrics and communicating CSR policies internally and externally will be discussed and analyzed. Students will develop an understanding of best practices of CSR in its entire breadth within an organization as well as delve into economic structures designed to foster more responsibility and accountability.

Prerequisites: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-420 The Built Environment and Sustainability

SMGT-420 The Built Environment and Sustainability

(3 cr.)

This course addresses the impacts of the human-built environment on natural systems and opportunities available to mitigate them through thoughtful planning, design, and implementation techniques to provide desirable, affordable, and sustainable living and working spaces. Topics focus on providing critical infrastructure for economic development, housing, transportation, and utilities while protecting and enhancing environmental assets through effective site and building design, public input, and use of regulatory tools. Additional attention is given to the maintenance of community character and the economic and social interdependence of rural, exurban, suburban, and urban areas.

Prerequisites: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-430 International Management for a Sustainable World

SMGT-430 International Management for a Sustainable World

(3 cr.)

Repeatable for Credit: No

zations. This includes socio-cultural aspects and group dynamics of international business and service organizations through the study of sustainable management practices - strong profitability, healthy environment, vital communities.

Prerequisite: take SMGT-235. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-435 International Development and Sustainability

SMGT-435 International Development and Sustainability

(3 cr.)

Repeatable for Credit: No

This course examines the international sustainability concerns. It explores interrelationships of sustainable management practices with population growth, health, food security, poverty, inequality, urbanization, international trade, technology and environmental change at local, regional, and global levels. Contemporary issues and alternatives will be explored to identify sustainable management practices that can lead to strong profitability, healthy environments, and vibrant communities.

Prerequisite: take SMGT-235. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-460 Environment and Society

SMGT-460 Environment and Society

(3 cr.)

Repeatable for Credit: No

Introduce the fundamentals of human-environmental interaction; a grasp of how these interactions create problems; and how the elements of social, technological, and personal choices combine to overcome them.

Prerequisites: take SMGT-115. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-495 Sustainable Management Capstone

SMGT-495 Sustainable Management Capstone

(3 cr.)

Repeatable for Credit: No

Application and study of sustainable management through the solution of an industry-based project. Implementation of a triple-bottom line solution to industrial or community-based problems will be emphasized.

Sustainability

SUST-315 Sustainable Engineering

SUST-315 Sustainable Engineering

(3 cr.)

Repeatable for Credit: No

Impact of engineering and design/manufacturing decisions on the environment. Topics include sustainability, energy and material flows, risk assessment, multi-use product life cycles, manufacturing process waste streams, sustainable product design issues, end-of-life product handling, and pollution prevention techniques.

Must be Junior level or higher

SUST-432 Global Sustainability Experience in Design & Manufacturing

SUST-432 Global Sustainability Experience in Design & Manufacturing

(3 cr.)

Repeatable for Credit: No

Cross-disciplinary exploration of ecologically-friendly design, engineering, manufacturing and business models. International travel component with corporate, cultural, academic and civic leaders. Cultural, economic and political influences; product design; manufacturing; sustainability; application of current eco-friendly product design models; research Topics; regional global visitation; studio and laboratory experiences; project and presentation.

Must be Junior level or higher

SUST-449 Cooperative Education Experience

SUST-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

SUST-499 Independent Study

SUST-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Technology

TECH-230 Technology Dynamics

TECH-230 Technology Dynamics

(3 cr.)

Repeatable for Credit: No

Examine the process of technological change. Study the transfer of technological invention and innovation. Develop a framework for forecasting.

TECH-295 Honors Seminar in Technology

TECH-295 Honors Seminar in Technology

(2 cr.)

Repeatable for Credit: No

Addresses a wide range of technological concepts along with examples of how technology impacts our lives as individuals, a society, and a global community. Delivered in seminar format.

TECH-340 Future of Work

TECH-340 Future of Work

(1-2 cr.)

Repeatable for Credit: No

Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present, and future to students' individual work situations.

TECH-375 Workshop

TECH-375 Workshop

(1-3 cr.)

Repeatable for Credit: Yes

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop.

TECH-499 Independent Study

TECH-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Technology Education

TECED-149 Cooperative Education Experience

TECED-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

TECED-206 Secondary Technology Teaching Practicum

TECED-206 Secondary Technology Teaching Practicum

(3 cr.)

Repeatable for Credit: No

Identification and scaffolding of age appropriate energy, transportation, construction, manufacturing, and communication systems content and learning activity resources; preparing for activity implementation in a laboratory setting; authentic assessment of student learning; and reflection of teaching strategies implemented in a laboratory environment.

take STMED 160

TECED-249 Cooperative Education Experience

TECED-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

TECED-299 Independent Study

TECED-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

TECED-325 Technology for Elementary School Children

TECED-325 Technology for Elementary School Children

(2 cr.)

Repeatable for Credit: No

Development, philosophy, objectives and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics and drawing.

TECED-330 Implementing Technology Education

TECED-330 Implementing Technology Education

(3 cr.)

Repeatable for Credit: No

Converts the theory of contemporary technology education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school.

TECED-333 Planning Technical/Vocational Laboratories

TECED-333 Planning Technical/Vocational Laboratories

(2 cr.)

Repeatable for Credit: No

School shop facility planning: equipment selection, placement, care and management.

TECED-340 Middle School Technology Education

TECED-340 Middle School Technology Education

(2 cr.)

Repeatable for Credit: No

Reviews trends and activities in the technology education movement. Teach middle school offerings.

TECED-349 Cooperative Education Experience

TECED-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

TECED-370 Project Lead the Way: Gateway to Technology Seminar

TECED-370 Project Lead the Way: Gateway to Technology Seminar

(1 cr.)

Repeatable for Credit: No

Overview of Project Lead the Way: Gateway to Technology. Advanced curriculum, procedures for using curricula, end-of-course assessment procedures, verification of training, and online resources.

Prerequisites: take STMED-160 and TECED-340. Background check required.

TECED-371 Project Lead the Way: Intro to Engineering Design Seminar

TECED-371 Project Lead the Way: Intro to Engineering Design Seminar

(1 cr.)

Repeatable for Credit: No

Overview of Project Lead the Way: Introduction to Engineering Design Seminar. Curriculum, procedures for using curricula, end-of-

course assessment procedures, verification of training, and online resources.
Prerequisites: STMED-160, TECED-340, ETECH-110, and either INMGT-314 or ET-422

TECED-372 Project Lead the Way - Principles of Engineering

TECED-372 Project Lead the Way - Principles of Engineering

(1 cr.)

Repeatable for Credit: No

Overview of Project Lead the Way: Principles of Engineering. Curriculum, procedures for using curricula, end-of-course assessment procedures, verification of training, and online resources.

Prerequisites: take ETECH-110, ETECH-205, ET-204 and either ETECH 371 or ET-341. Background check required.

TECED-375 Workshop:

TECED-375 Workshop:

(1-3 cr.)

Repeatable for Credit: No

Current specialized topics in industrial education through experiential activities.

Instructor's Consent Required

TECED-398 Field Experience

TECED-398 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

TECED-398E Field Experience

TECED-398E Field Experience

(1 cr.)

Repeatable for Credit: No

Department Consent

TECED-406 Evaluation in Technology/Vocational Education

TECED-406 Evaluation in Technology/Vocational Education

(2 cr.)

Repeatable for Credit: No

For industrial arts and vocational/technical teachers in evaluating program and student performance: basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (including those with special needs). Student evaluation of instructor and instruction.

TECED-408 Student Teaching Technology/Vocational Education

TECED-408 Student Teaching Technology/Vocational Education

(8 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Cum GPA 2.25 or higher

TECED-409 Student Teaching in Technology Education

TECED-409 Student Teaching in Technology Education

(4-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Prerequisite: Benchmark II completion

TECED-431 Field Trips to Industry

TECED-431 Field Trips to Industry

(1-3 cr.)

Repeatable for Credit: Yes

Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught.

Department Consent

TECED-437 Organization/Management of Technical Laboratories

TECED-437 Organization/Management of Technical Laboratories

(2 cr.)

Repeatable for Credit: No

Experience in administration, project development and teaching problems associated with industrial education.

TECED-438 Course Construction

TECED-438 Course Construction

(2 cr.)

Repeatable for Credit: No

Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package/unit of instruction.

TECED-449 Cooperative Education Experience

TECED-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

TECED-470 Project Lead the Way - Digital Electronics Seminar

TECED-470 Project Lead the Way - Digital Electronics Seminar

(1 cr.)

Repeatable for Credit: No

Overview of Project Lead the Way distance education curriculum, procedures for using curricula, end-of-course assessment procedures, verification of training, and online resources.

Prerequisites: Take ET-204 and ET-271 and either ETECH 371 or ET-341. Background check required.

TECED-488 Internship Teaching

TECED-488 Internship Teaching

(2-8 cr.)

Repeatable for Credit: No

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester.

Department Consent

TECED-489 Internship Teaching

TECED-489 Internship Teaching

(16 cr.)

Repeatable for Credit: Yes

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester.

Department Consent

TECED-498 Field Experience

TECED-498 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

TECED-498E Field Experience

TECED-498E Field Experience

(1 cr.)

Repeatable for Credit: No

Department Consent

TECED-499 Independent Study

TECED-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Theatre

THEA-131 Theater Practicum

THEA-131 Theater Practicum

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions.

THEA-200 Stagecraft

THEA-200 Stagecraft

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Theatre backstage theory and techniques creating scenery and lighting for theatrical productions. Use of tools and technology in creating technical elements.

THEA-232 Theatre In Our World

THEA-232 Theatre In Our World

(3 cr.)

Global Perspective, Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Development of theater arts from ancient times to present; theatre from around the world; play styles, production methods and audience appreciation; representative plays.

THEA-300 European Theatrical Performance and Design

THEA-300 European Theatrical Performance and Design

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

In depth look at European Theatre, as seen in Spain. Performance and design elements as well as theatrical structures and locations. Study abroad.

THEA-300 Special Topics in Theatre

THEA-300 Special Topics in Theatre

(3 cr.)

Repeatable for Credit: Yes

Current issues or historical topics related to theatre. Specific topics advertised prior to the semester offered. Repeatable up to three times with different topics or issues.

THEA-332 The Directing and Acting Process

THEA-332 The Directing and Acting Process

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Application of directing and acting methods. Script and character analysis and development. Applying principles of the director/actor relationship.

THEA-337 Design for Theatre

THEA-337 Design for Theatre

(3 cr.)

Repeatable for Credit: No

Application and development of theatrical design aesthetics and methods. Apply principles of the theatrical collaborative production process.

THEA-340 Multiculturalism and Diversity in American Theatre

THEA-340 Multiculturalism and Diversity in American Theatre

(3 cr.)

Racial & Ethnic Studies Category A, Arts & Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Analysis of dramatic literature and theatre artists that reflect the multicultural and diverse landscape of American society through the exploration of race and sexual orientation.

THEA-499 Independent Study

THEA-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Training and Human Resource Development

TRHRD-149 Cooperative Education Experience

TRHRD-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved training department in business, industry, or government. May be recurring, is supervised during work/study periods. Any recurring work/study periods would be designed to build upon previous experiences in the course.

Department Consent

TRHRD-249 Cooperative Education Experience

TRHRD-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved training department in business, industry, or government. May be recurring, is supervised during work/study periods. Any recurring work/study periods would be designed to build upon previous experiences in the course.

Department Consent

TRHRD-349 Cooperative Education Experience

TRHRD-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved training department in business, industry, or government. May be recurring, is supervised during work/study periods. Any recurring work/study periods would be designed to build upon previous experiences in the course.

Department Consent

TRHRD-360 Training Systems in Business and Industry

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

TRHRD-370 Training Methods in Business and Industry

TRHRD-370 Training Methods in Business and Industry

(2 cr.)

Repeatable for Credit: No

Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training sessions presentations.

TRHRD-389 Training Internship

TRHRD-389 Training Internship

(1-8 cr.)

Repeatable for Credit: Yes

Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs.

Department Consent

TRHRD-360

TRHRD-399 Independent Study

TRHRD-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

TRHRD-449 Cooperative Education Experience

TRHRD-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved training department in business, industry, or government. May be recurring, is supervised during work/study periods. Any recurring work/study periods would be designed to build upon previous experiences in the course.

Department Consent

TRHRD-499 Independent Study

TRHRD-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Transdisciplinary

TRDIS-101 Seminar in Career Exploration

TRDIS-101 Seminar in Career Exploration

(1 cr.)

Repeatable for Credit: No

Identification and analysis of individual career interests, values, needs, skills, and goals. Investigation of resources for career planning and development, including educational programs, job market information and employment opportunities. Development of individual career plans.

TRDIS-120 Strategies for Academic Success

TRDIS-120 Strategies for Academic Success

(1 cr.)

Repeatable for Credit: No

Strategies for classroom success and for managing college life. Emotional intelligence, identity formation, autonomy, financial literacy as it relates to college life and beyond, interpersonal effectiveness, specific study skills, and communicating with others in a diverse and inclusive environment.

TRDIS-121 Strategies for Successful Career Development

TRDIS-121 Strategies for Successful Career Development

(1 cr.)

Repeatable for Credit: No

Strengths-based exploration of individual career interests, motivations, values, and goals. Overview of career resources, opportunities, and programs at UW-Stout. Introduction to career development as a life-long process and strategies for successful career planning.

TRDIS-200 Short-Term Cultural Experience

TRDIS-200 Short-Term Cultural Experience

(1 cr.)

Repeatable for Credit: No

Short-term travel experience to U.S. regions delivered through Student Support Services grant-funded program. Available to active, participating students.

Instructor's Consent Required

Must be Sophomore level or higher

TRDIS-220 Insights into Innovation and Ideation

TRDIS-220 Insights into Innovation and Ideation

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Develop insights into product/service/idea invention, innovation, and ethical economic and social value creation.

TRDIS-296A Experience China: Society and Cultural Immersion

TRDIS-296A Experience China: Society and Cultural Immersion

(3 cr.)

Global Perspective, Arts and Humanities - Foreign Language and Culture, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Intercultural communication and exposure, awareness and understanding of China, Chinese daily life and culture, and global citizenship. Assess and develop cultural understanding, assumptions, and adaptation.

Department Consent

TRDIS-320 McNair Scholars Program Seminar I

TRDIS-320 McNair Scholars Program Seminar I

(1 cr.)

Repeatable for Credit: No

McNair Scholars will explore graduate school processes and terminology, learn research methodology in preparation for summer research, and improve skillsets for successful graduate school admission and completion.

Prerequisite: Participant in McNair Scholars Program and in Good Standing

TRDIS-325 McNair Scholars Program Seminar II: Junior Research Proposal

TRDIS-325 McNair Scholars Program Seminar II: Junior Research Proposal

(2 cr.)

Repeatable for Credit: No

Research proposal and preparation for summer research institute for McNair Scholars.

TRDIS-330 McNair Scholars Program Seminar III

TRDIS-330 McNair Scholars Program Seminar III

(1 cr.)

Repeatable for Credit: No

McNair Scholars will prepare for the graduate school application process, disseminate summer research, and improve skillsets for successful graduate school admission and completion.

Participant in McNair Scholars Program and in Good Standing

TRDIS-335 McNair Scholars Program Seminar IV: Senior Capstone

TRDIS-335 McNair Scholars Program Seminar IV: Senior Capstone

(2 cr.)

Repeatable for Credit: No

Transition to graduate school for McNair Scholars. Research dissemination and graduate school success strategies.

TRDIS-350 Applied Foreign Language Project

TRDIS-350 Applied Foreign Language Project

(2 cr.)

Repeatable for Credit: No

Application of foreign language to the context of a career related to the student's major program. Vocabulary, written communications, and oral interaction in the primary language of the Applied Foreign Language minor.

Prerequisite: 16 credits in a foreign language

TRDIS-477 International Study

TRDIS-477 International Study

(1-16 cr.)

Global Perspective

Repeatable for Credit: Yes

Inter-institutional credit exchange for students accepted in university-approved study abroad or international exchange programs offered through the office of international programs at recognized/accredited institutions in other countries. The course may be repeated.

Video Production

VID-200 Video Production Technologies

VID-200 Video Production Technologies

(3 cr.)

Repeatable for Credit: No

Essential concepts and techniques of video production technologies and their use. Students develop competency and foundational knowledge in the areas of camera systems, dynamic range and chroma sampling capabilities, lenses/optics, video acquisition formats/codecs/compression, video signal analysis, fundamental internal and external audio recording and mixing, video distribution platforms and file preparation.

Prerequisites: take PHOTO 130

VID-310 Commercial Motion Graphics

VID-310 Commercial Motion Graphics

(3 cr.)

Essential concepts and techniques in developing motion graphics for video applications.

Prerequisites: take GCOM 151 and PHOTO 330

VID-331 Advanced Video Production

VID-331 Advanced Video Production

(3 cr.)

Repeatable for Credit: No

Advanced concepts and techniques of video production. Emphasis is placed on guided practice of advanced applied/commercial student projects toward developing professional skills and proficiencies in video production.

Prerequisites: take VID 310

VID-420 Virtual and Augmented Reality Video Applications

VID-420 Virtual and Augmented Reality Video Applications

(3 cr.)

Repeatable for Credit: No

Advanced concepts and techniques of video production. Primary emphasis is placed on virtual reality (VR) photo/video capture (360 degree), production and post-production techniques. Secondary emphasis is placed on video production and post-production techniques for integrating video and/or motion graphics into augmented reality (AR) applications.

Prerequisites: take VID 331

VID-430 Visual Effects and Compositing

VID-430 Visual Effects and Compositing

(3 cr.)

Repeatable for Credit: No

Intermediate concepts and techniques of visual effects (VFX) and compositing for video production. Primary emphasis is placed on

moving image retouching, digital (photographic) matte painting, rotoscoping, motion tracking, and compositing of layer or node-based content. Secondary emphasis is placed on the creation and composite of environmental natural elements and effects.

Prerequisites: take VID 331

VID-440 Video Production Capstone

VID-440 Video Production Capstone

(3 cr.)

Repeatable for Credit: No

Apply collaborative solution-oriented analysis to client projects. Demonstrate project management, leadership, supervision and teamwork strategies. Deploy technical concepts, techniques and procedures fundamental for the execution and delivery of a professional applied/commercial video project.

Prerequisites: take VID 430

Vocational Rehabilitation

REHAB-101 Introduction to Rehabilitation

REHAB-101 Introduction to Rehabilitation

(3 cr.)

Repeatable for Credit: No

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

REHAB-102 Community Resources

REHAB-102 Community Resources

(3 cr.)

Repeatable for Credit: No

Role of community resources in rehabilitation.

REHAB-149 Cooperative Education Experience

REHAB-149 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved rehabilitation related position to gain experience in provisions of human services. Selection by application and interview.

Department Consent

REHAB-198 Field Experience in Rehabilitation

REHAB-198 Field Experience in Rehabilitation

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers.

Department Consent

Prerequisite: take REHAB-101

REHAB-199 Independent Study

REHAB-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

REHAB-201 Pre Practicum in Rehabilitation

REHAB-201 Pre Practicum in Rehabilitation

(1 cr.)

Repeatable for Credit: No

Issues related to professional development, ethics, and career awareness in vocational rehabilitation and criminal justice.

Prerequisites: take REHAB-101, REHAB-102, and REHAB-230

REHAB-205 Rehabilitation Practicum

REHAB-205 Rehabilitation Practicum

(3-4 cr.)

Repeatable for Credit: No

Community based learning in application of rehabilitation concepts and principles. Includes weekly seminar for critique and skill development.

Prerequisites: take REHAB-101 and REHAB-102, both with a C or better.

REHAB-217 Law Enforcement Policies and Procedures

REHAB-217 Law Enforcement Policies and Procedures

(2 cr.)

Repeatable for Credit: No

Law enforcement policies, procedures, philosophies, ethics, and career awareness in criminal justice.

Prerequisites: take REHAB 101 and REHAB 102

REHAB-230 Psychosocial Aspects of Disability

REHAB-230 Psychosocial Aspects of Disability

(3 cr.)

Repeatable for Credit: No

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisite: take REHAB-101

REHAB-249 Cooperative Education Experience

REHAB-249 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved rehabilitation related position to gain experience in provisions of human services. Selection by application and interview.

Department Consent

REHAB-298 Field Experience in Rehabilitation

REHAB-298 Field Experience in Rehabilitation

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers.

Department Consent

Prerequisite: take REHAB-101

REHAB-299 Independent Study

REHAB-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

REHAB-300 Special Topics in Rehabilitation

REHAB-300 Special Topics in Rehabilitation

(1-2 cr.)

Repeatable for Credit: Yes

Special topics not available through regular courses.

REHAB-300G Grantsmanship in the Helping Professions

REHAB-300G Grantsmanship in the Helping Professions

(1-2 cr.)

Repeatable for Credit: No

Explore grant writing in human service occupations and the necessity for such proposals as an element of change in society. Methods used to seek funding sources and evaluate requests for proposals.

REHAB-300N Community-Based Rehabilitation Services

REHAB-300N Community-Based Rehabilitation Services

(1 cr.)

Repeatable for Credit: No

An examination of national priorities for community-based services designed to enhance competitive employment options for severely disabled persons.

REHAB-305 Sign Language I

REHAB-305 Sign Language I

(3 cr.)

Communication Skills

Repeatable for Credit: No

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

REHAB-306 Sign Language II

REHAB-306 Sign Language II

(3 cr.)

Communication Skills

Repeatable for Credit: No

Intermediate course in manual communication with persons who are deaf. American sign language, increasing sign vocabulary and communication speed.

Prerequisite: take REHAB-305

REHAB-310 Vocational Assessment Applications in Rehabilitation

REHAB-310 Vocational Assessment Applications in Rehabilitation

(3 cr.)

Repeatable for Credit: No

Common vocational assessment techniques used in rehabilitation settings with diverse populations. Students apply, interpret and synthesize assessment techniques such as consumer needs analysis, vocational interviewing, psychometric testing, occupational information, behavioral observation and work evaluation techniques to provide client feedback and promote informed career decision making.

Prerequisites: take REHAB-101 and REHAB-102

REHAB-315 Rehabilitation and Criminal Justice

REHAB-315 Rehabilitation and Criminal Justice

(3 cr.)

Repeatable for Credit: No

Criminal justice system: process and individual rights. Crime data and criminal law, policing, adjudication. Process roles of corrections and professionals. Disability: demographics, issues and responses.

REHAB-320 Rehabilitation and Chemical Dependency

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-321 Rehabilitation of Public Offenders

REHAB-321 Rehabilitation of Public Offenders

(3 cr.)

Repeatable for Credit: No

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-325 Rehabilitation and Sensory Disability

REHAB-325 Rehabilitation and Sensory Disability

(3 cr.)

Repeatable for Credit: No

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed.

REHAB-327 Psychiatric Rehabilitation

REHAB-327 Psychiatric Rehabilitation

(3 cr.)

Repeatable for Credit: No

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take REHAB-230 and PSYC-361

REHAB-333 Adolescent Substance Use and Abuse

REHAB-333 Adolescent Substance Use and Abuse

(2 cr.)

Repeatable for Credit: No

Major concepts, current trends, and culturally sensitive approaches in the assessment, prevention and treatment of adolescent alcohol and drug addiction.

REHAB-349 Cooperative Education Experience

REHAB-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved rehabilitation related position to gain experience in provisions of human services. Selection by application and interview.

Department Consent

REHAB-350 Independent Living

REHAB-350 Independent Living

(2 cr.)

Repeatable for Credit: No

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-351 Benefits Coordination: Practice and Application

REHAB-351 Benefits Coordination: Practice and Application

(3 cr.)

Repeatable for Credit: No

Benefits Specialist role and function; rehabilitation content applications. Benefits Program requirements: process and application.

Prerequisite: take REHAB-102

REHAB-355 Rehabilitation of the Older Disabled Worker

REHAB-355 Rehabilitation of the Older Disabled Worker

(2 cr.)

Repeatable for Credit: No

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability.

REHAB-360 Assistive Technology

REHAB-360 Assistive Technology

(2 cr.)

Repeatable for Credit: No

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed.

REHAB-361 Microcomputer Applications in Rehabilitation

REHAB-361 Microcomputer Applications in Rehabilitation

(2 cr.)

Repeatable for Credit: No

Applications of microcomputer technology and adaptive devices in vocational evaluation, work adjustment, placement and administration.

REHAB-365 Laboratory in Rehabilitation Technology

REHAB-365 Laboratory in Rehabilitation Technology

(2 cr.)

Repeatable for Credit: No

Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems.

Prerequisite: take REHAB-360

REHAB-398 Rehabilitation Practicum

REHAB-398 Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: Yes

Community-based learning in an approved position to further develop skills and understanding of the challenges and potentials of various careers working with persons with disabilities, older adults and/or offenders. Written and oral communication emphasis.

Department Consent

Prerequisites: take REHAB-201 and COUN-405, each with a grade of "C" or better

REHAB-399 Independent Study

REHAB-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes
Department Consent

REHAB-401 Principles and Techniques of Caseload Management

REHAB-401 Principles and Techniques of Caseload Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities.

Prerequisites: take REHAB 102 and REHAB-230

REHAB-402 Management of Non-Profit Organizations

REHAB-402 Management of Non-Profit Organizations

(3 cr.)

Repeatable for Credit: No

Principles and practices in the operation of non-profit organizations. Comparison of how non-profit and for-profit operations are affected by organizational structures and authority, budgeting practices, sources of income, personnel issues, strategic planning and program evaluation, and marketing. Application to community agencies.

REHAB-410 Job Placement Processes

REHAB-410 Job Placement Processes

(3 cr.)

Repeatable for Credit: No

Placement theory and methods used to assist people with disabilities to obtain appropriate employment.

Prerequisite: take REHAB-230

REHAB-420 Psychological Testing of Individuals with Disabilities

REHAB-420 Psychological Testing of Individuals with Disabilities

(3 cr.)

Repeatable for Credit: No

Use of common psychometric tests with specific emphasis on selection, evaluation, administration, scoring, and interpretation of standardized tests for individuals with disabilities, including those from diverse ethnic and cultural groups.

REHAB-449 Cooperative Education Experience

REHAB-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved rehabilitation related position to gain experience in provisions of human services. Selection by application and interview.

Department Consent

REHAB-452 Group Processes in Rehabilitation Settings

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-459 Workforce Development, Disability, and Socioeconomics

REHAB-459 Workforce Development, Disability, and Socioeconomics

(3 cr.)

Repeatable for Credit: No

Macro/micro influences that keep people unemployed and underemployed, including community, services, providers, employers, and families. Interface among legislative initiatives, disability, and life/work. Policy, strategies, and skills that promote effective intervention and change. Intended for professionals in the field.

REHAB-460 Rehabilitation in the Private Sector

REHAB-460 Rehabilitation in the Private Sector

(3 cr.)

Repeatable for Credit: No

Case coordination to support maximum medical recovery and/or vocational rehabilitation of an injured person involved in insurance funded cases. Differences between public and private rehabilitation processes. Interviewing, planning, assessing transferable skills, placing in suitable work, and communicating with other involved individuals. Business practices, professional roles, and ethical issues.

Prerequisite: take REHAB-310

REHAB-461 Forensics for the Human Service Professional

REHAB-461 Forensics for the Human Service Professional

(2 cr.)

Repeatable for Credit: No

Terminology and practices associated with forensic for human service professionals. Strategies and materials related to preparation for testimony and expert witness testimony in a court of law and other legal settings.

REHAB-462 Absence Management

REHAB-462 Absence Management

(3 cr.)

Repeatable for Credit: No

Orientation to workers with disabilities in business and industry. Focus on reducing disability related costs, and the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business, community resources, and rehabilitation.

REHAB-470 Work Adjustment Services

REHAB-470 Work Adjustment Services

(2-3 cr.)

Repeatable for Credit: No

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing.

Prerequisite: take REHAB-310

REHAB-480 Advanced Rehabilitation Practicum

REHAB-480 Advanced Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: No

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration.

Department Consent

Prerequisite: take REHAB-398

REHAB-481 Application Of Theories In Rehabilitation Counseling

REHAB-481 Application Of Theories In Rehabilitation Counseling

(3 cr.)

Repeatable for Credit: No

Major theories and techniques used in rehabilitation counseling. Development of skills in the use of basic counseling techniques with individuals who are disabled and including those from various ethnic and cultural groups.

REHAB-482 Sexuality and Disability

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

REHAB-483 Vocational Counseling Issues

REHAB-483 Vocational Counseling Issues

(2 cr.)

Repeatable for Credit: No

Theoretical and applied approaches to vocational counseling and current research in vocational choice and career development as related to vocational counseling.

REHAB-488 Developing Collaborative Partnerships

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

REHAB-499 Independent Study

REHAB-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Women and Gender Studies

WGS-199 Independent Study

WGS-199 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

WGS-210 Introduction to Women and Gender Studies

WGS-210 Introduction to Women and Gender Studies

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary analysis of gender and discrimination, including an examination of history, science, art, and institutions throughout the U.S. and globally.

WGS-311 Topics in Women's Studies

WGS-311 Topics in Women's Studies

(1-3 cr.)

Repeatable for Credit: Yes

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies.

Prerequisite: take WGS-210

WGS-356 Gender in Cross Cultural Perspective

WGS-356 Gender in Cross Cultural Perspective

(3 cr.)

Global Perspective, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Gender roles in cross-cultural perspective. Anthropological theories of gender and inequality; social responsibility balancing cultural relativism and equity. Variation in domestic, social, economic, political, and religious roles; historical development of and contemporary changes in gender roles; global influences and processes of change and improvement in the lives of modern women.

WGS-499 Independent Study

WGS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Course Selective Tool

Course Selective-1 :

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Course Selective-4 :

Course Selective-4 :

Choose a selective to fulfill credit requirements.

Course Selective-5 :

Course Selective-5 :

Choose a selective to fulfill credit requirements.

Course Selective-6 :

Course Selective-6 :

Choose a selective to fulfill credit requirements.

Course Selective-7 :

Course Selective-7 :

Choose a selective to fulfill credit requirements.

Course Selective-8 :

Course Selective-8 :

Choose a selective to fulfill credit requirements.

Course Selective-9 :

Course Selective-9 :

Choose a selective to fulfill credit requirements.

Course Selective-10 :

Course Selective-10 :

Choose a selective to fulfill credit requirements.

Course Selective-11 :

Course Selective-11 :

Choose a selective to fulfill credit requirements.

Course Selective-12 :

Course Selective-12 :

Choose a selective to fulfill credit requirements.

Course Selective-13 :

Course Selective-13 :

Choose a selective to fulfill credit requirements.

Course Selective-14 :

Course Selective-14 :

Choose a selective to fulfill credit requirements.

Academic Programs/Majors

Major

Apparel Design and Development, B.S.

Go to [program website](#)

Apparel Design and Development, B.S.: 4-year sequence

Introduction

The Apparel Design and Development program prepares students for the technical global sewn products industry. Students will experience hands-on skill development in all ready-to-wear categories including sportswear, knitwear, safety & technical products and special occasion.

The program offers coursework in garment construction, pattern development, sketching, technical design, critical thinking, quality

analysis, production processes, color and print development, and computer aided design and manufacturing technologies. Semester-long study abroad opportunities are also available to students at London College of Fashion, AIU London and Lorenzo De Medici in Florence Italy.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Core	56 credits
Minor/Specialization	24 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education Requirements (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

MATH-120 Introductory College Mathematics I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytical Reasoning

Repeatable for Credit: No

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations.

Prerequisite: Math Placement Level 2 or completion of MATH-90.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Core (56 credits)

Major Studies: Foundation Level (27 credits)

APRL-134 Global Fashion Industry

(3 cr.)

Global Perspective

Repeatable for Credit: No

Analysis of the global fashion industry including design, development, merchandising, and manufacturing, with a specific emphasis on brand and organizational development.

APRL-166 Apparel Construction I

(3 cr.)

Repeatable for Credit: No

Study and application of woven apparel construction techniques, fabric selection, and fit.

APRL-167 Textiles I: Theory, Fibers and Structures

(3 cr.)

Repeatable for Credit: No

Study of fibers, yarns, textiles, and textile manufacturing processes, and how target market needs are addressed through textile selection.

APRL-180 Pattern Development

(3 cr.)

Repeatable for Credit: No

Introduction to flat pattern development for woven garments, with a focus on pattern alterations and fit process for global production.

APRL-211 History and Culture of Fashion

(3 cr.)

Repeatable for Credit: No

A study of the changes in fashion including trends, designers and cultural norms through analysis of silhouette, construction, and styling.

APRL-225 Target Market Research and Line Development

(3 cr.)

Repeatable for Credit: No

Apparel collection development by researching target markets and trend; hand and computer drawing techniques are utilized to communicate collection development.

APRL-250 Textiles II: Evaluation

(3 cr.)

Repeatable for Credit: No

Evaluation of materials and products using industry testing equipment, procedures, and standards.

Prerequisite: Take APRL-167

APRL-272 Quality Analysis of Sewn Products

(3 cr.)

Repeatable for Credit: No

Analysis of sourcing and materials for quality product performance and specification development.

Prerequisite: Take APRL-167

APRL-286 Apparel Construction II: Cut and Sewn Knits

(3 cr.)

Repeatable for Credit: No

Study and application of construction methods specific to stretch fabric sewn products.

Prerequisite: Take APRL-180

Major Studies: Apprentice Level (17 credits)

APRL-290 Specifications and Fit Development

(3 cr.)

Repeatable for Credit: No

Garment sizing, fit, graded specifications, and pre-production processes of mass produced apparel.

Prerequisites: Take APRL-180 and APRL-272

APRL-373 Advanced Pattern Development

(3 cr.)

Repeatable for Credit: No

Advanced pattern development by flat pattern making and draping methods, with an emphasis on creative pattern modifications and fit evaluation for global production.

Prerequisite: Take APRL-180

APRL-390 CAD for Apparel Images

(3 cr.)

Repeatable for Credit: No

Using CAD programs, students create and communicate apparel collections for various target markets based on market research.

Prerequisite: Take APRL-225

APRL-393 Garment Engineering/Production

(3 cr.)

Repeatable for Credit: No

Knowledge of the global fashion industry including development, merchandising, and engineering of soft goods production applied in a team-based laboratory simulation.

Prerequisites: take APRL-134, APRL-250, APRL-286 , and APRL-290

APRL-398 Field Experience

(2-3 cr.)

Repeatable for Credit: Yes

A practical work experience within the apparel industry, supervised by a faculty member, requiring a minimum of 180 hours of unpaid work.

Department Consent

APRL-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

A practical work experience within the apparel industry, supervised by a faculty member, requiring a minimum of 320 hours of paid work over a minimum of eight weeks.

Department Consent

Must have a cumulative GPA of 2.75 or higher and must be at least a Junior.

(Two experiences for a total of 5 credits are required)

Major Studies: Designer Level (12 credits)

APRL-454 Knit Design, Fabrication and Technology

(3 cr.)

Repeatable for Credit: No

Study of knit design, fabrication and technology, including stitches, yarns, texture effects, production and quality issues.

Prerequisites: Take APRL 167

APRL-464 Functional Design and Development

(3 cr.)

Repeatable for Credit: No

Work teams apply physical science theory and creative problem solving methods to innovate functional clothing for specific needs, occupations, and activities.

Prerequisites: take APRL-250, APRL-286, APRL-290, APRL-373, and APRL-390

APRL-482 Studio I: Brand Development

(3 cr.)

Repeatable for Credit: No

Research and develop a personal apparel brand including technical and aesthetic design, promotion and production.

Prerequisites: Take APRL 373 , APRL 390 , APRL 464 , and APRL-394

APRL-485 Studio II: Collection Development

(3 cr.)

Repeatable for Credit: No

Original collection development and presentation of research, design development, production and marketing.

Prerequisite: take APRL-482

Minor/Specialization (24 credits minimum)

Select from approved list of minors and specializations:

- *Applied Foreign Language (26 credits)*
- *Applied Photography (21 credits)**
- *Art (22 credits)**
- *Business Administration (22 credits)**
- *Color (17 credits)**
- *Health and Fitness (18-21 credits)**

- *International Studies (34 credits)*
- *Journalism (22 credits)**
- *Materials (22-27 credits)**
- *Retailing (21 credits)**
- *Supply Chain Management (22 credits)**
- *Sustainable Design (23 credits)**
- *Web Technology (21 credits)**

*Career Customization: Electives (0-7 credits)

Courses/credits may be selected from any category to meet the 24-credit Minor specialization requirement

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Applied Biochemistry and Molecular Biology, B.S.

Go to [program website](#)

Applied Biochemistry and Molecular Biology, B.S.: 4-year sequence

Introduction

Applied Biochemistry and Molecular Biology (ABMB) majors develop expertise in modern biomolecular sciences so they can make original discoveries, solve problems, and meet societal needs. Immerse yourself in a stimulating curriculum that combines strong fundamental theory and cutting-edge research. Our classrooms integrate small-group research activities. Students also participate in individualized research projects, field experiences, and cooperative internships. Discover your passion for understanding living systems while building valuable skills and knowledge. Make your career in the biomolecular sciences, healthcare, pharmaceutical, and biotechnology industries!

General Requirements Bachelor of Science Degree

Total for Graduation	120 credits
General Education	45 credits
Major Studies	75 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspectives (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (45 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytical Reasoning and Natural Sciences (18 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-156 Calculus and Analytic Geometry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Equivalent to MATH 153 and MATH 154.

Prerequisite: Math Placement Level 4 or completion of MATH-121.

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (75 Credits)

Required Core (66 Credits)

ABMB-101 ABMB Professions

(1 cr.)

Repeatable for Credit: No

Introduction to the Applied Biochemistry and Molecular Biology Profession. First of two 1-credit introductory courses for students entering the ABMB program at UW-Stout. Information on relevant careers, a curriculum survey, and introductory topics for students' success in the ABMB program.

ABMB-201 Introduction to Research in ABMB

(1 cr.)

Repeatable for Credit: No

Introduction to primary literature, hypothesis development, experimental design, and data analysis in life sciences research.

ABMB-470 ABMB Capstone

(1 cr.)

Repeatable for Credit: No

Capstone experience involving completion of senior research portfolio, including scientific reporting of data, ethical stances of Biochemistry and Molecular Biology (BMB) professionals, best practices as an employable professional.

Prerequisites: BIO 370 , CHEM 311 and senior status

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

BIO-235 Molecular Cell Biology II

(4 cr.)

Repeatable for Credit: No

Examination of molecular and cellular basis of eukaryotic life forms. Focus on bioenergetics, gene expression, signal transduction, and cancer. Laboratory manipulation of continuous eukaryotic cell lines.

Prerequisites: take BIO 136 and CHEM-136

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-370 Advanced Molecular Biology

(4 cr.)

Repeatable for Credit: No

Theoretical and hypothesis-driven laboratory experience in recombinant DNA and RNA techniques and their applications in biochemistry and molecular biology.

Prerequisites: take BIO-235 and CHEM-201

BIO-386 Introduction to Biostatistical Analysis

(3 cr.)

Repeatable for Credit: No

Overview of quantitative analytical techniques applied to biological questions using the scientific method. Statistical procedures will encompass descriptive and inferential techniques including graphical display of data, quantitative description, hypothesis testing, and study design as applied to biological and health sciences.

Prerequisites: Take BIO 135, BIO 136, BIO 242, or BIO 252 ; and take MATH 121 or equivalent

BIO-425 Proteomics

(3 cr.)

Repeatable for Credit: No

State-of-the-art training in proteomics. Solutions to biological research questions and operation of proteomics equipment such as chromatography devices and mass spectrometers.

Instructor's Consent Required

Prerequisite: take BIO-235 and CHEM-311 (co-enrollment in CHEM-311 is acceptable).

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-206 Organic Chemistry II Laboratory

(1 cr.)

Repeatable for Credit: No

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Prerequisite: take CHEM-201; Corequisite: take CHEM-204

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

CHEM-321 Physical Chemistry

(4 cr.)

Repeatable for Credit: No

Foundations of thermodynamics and kinetics. Topics include laws of thermodynamics, states of matter and transformations, equilibrium, Gibbs free energy, prediction of spontaneous reactions, reaction rates, rate laws, and transition states.

Prerequisite(s): take CHEM 136 and MATH 153 or MATH 156

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-412 Advanced Biochemistry

(3 cr.)

Repeatable for Credit: No

Structure and function of enzymes and membrane-bound proteins, enzyme kinetics and mechanism, and regulatory mechanisms of metabolism at the molecular, cellular and organismal levels.

Prerequisite: take CHEM-311

CHEM-414 Protein Chemistry Laboratory

(2 cr.)

Laboratory experiences in modern protein chemistry techniques, including gel electrophoresis techniques, chromatography, kinetics, ligand binding and spectrometry.

Prerequisite: CHEM 311

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

APSC-349 Internship Experience in Applied Science

(1-2 cr.)

Repeatable for Credit: Yes: up to 12 cr., 4 times

Work and study in an approved position to gain practical experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Three hundred twenty hours of work in this setting are required per credit.

Department Consent

ABMB-398 Field Experience in ABMB

(1-6 cr.)

Repeatable for Credit: Yes

Field Experience in ABMB in an approved position consisting of a minimum of 320 hours of work experience followed by oral presentation and written report.

Prerequisite: Petition required

Selectives (9 credits)

Courses must be any 200-level or higher from BIO, CHEM, or PHYS, or additional Co-op credit.

Applied Mathematics and Computer Science, B.S.

Go to [program website](#)

Applied Math and Computer Science, B.S. 4-year sequences:

- Actuarial Science Concentration
- Business Management Concentration
- Cyber Security Concentration
- Interdisciplinary or Undecided Concentration
- Mathematics Education Concentration
- Scientific Computing Concentration
- Software Development Concentration

Introduction

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's need is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics and Computer Science.

The Applied Mathematics and Computer Science program prepares graduates for careers in a variety of fields by providing a foundation in mathematics, computer science, and statistics, complemented with additional courses specified by the selected concentration. Students may choose a concentration in Actuarial Science, Business Management, Information Assurance and Cyber Security, Interdisciplinary, Software Development, and Mathematics Education, or students may tailor their coursework to provide knowledge that will prepare them for a career path of their choice.

Students will enhance their studies and gain significant hands on experience through a capstone course or cooperative education experience. On campus, there are also opportunities in undergraduate research, tutoring, and other technical openings to enrich the educational experience.

In addition to fulfilling the university's basic admissions requirements, Applied Mathematics and Computer Science applicants must also graduate in the top 50 percent of their class, or for high schools that do not rank, have a cumulative grade point average of at least 3.00 on a 4.0 scale and have a minimum ACT composite score of 22 (*SAT Math 510*).

Transfer student applicants must have a 2.5 or higher cumulative GPA, and a grade of C or higher for all math and computer science courses already taken to be admitted into the Applied Mathematics and Computer Science program. Applicants must also have completed the equivalent of UW-Stout's *MATH-120 Intro to College Math* or a higher level math course with a grade of C or better. Students not meeting this requirement but meeting the general admission requirements may be admitted to the university as undecided.

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, or Technical Writing. It is the student's responsibility to obtain approval for the minor from the department offering it.

General Requirements Bachelor of Science Degree

Total for Graduation	120 credits
General Education	43-44 credits
Major Studies	76-77 credits

Applied Mathematics and Computer Science, B.S. (Major Studies)

- [Applied Mathematics and Computer Science, B.S. \(Actuarial Science Concentration\)](#)
- [Applied Mathematics and Computer Science, B.S. \(Business Management Concentration\)](#)
- [Applied Mathematics and Computer Science, B.S. \(Cyber Security Concentration\)](#)
- [Applied Mathematics and Computer Science, B.S. \(Interdisciplinary Concentration\)](#)

- [Applied Mathematics and Computer Science, B.S. \(Mathematics Education Concentration\)](#)
- [Applied Mathematics and Computer Science, B.S. \(Scientific Computing Concentration\)](#)
- Applied Mathematics and Computer Science, B.S. (Software Development Concentration)

Applied Science, B.S.

Go to [program website](#)

Applied Science, B.S. 4-year sequences:

- Applied Physics Concentration
- Biology Concentration
- Industrial Chemistry Concentration
- Interdisciplinary Science Concentration
- Materials and Nanoscience Concentration

Introduction

The Applied Science program offers the experience of learning science by doing science. The program emphasizes a broad scientific base plus experience in a chosen concentration and/or minor. Graduates prepare for careers in the sciences as well as further study in the allied health professions and graduate schools.

Admission to the Major

In addition to fulfilling the university's basic admission requirements, Applied Science applicants must have an ACT math score of at least 22 (SAT math 510) and rank in the upper 40 percent of their high school class, have a GPA of 3.0, or have a composite ACT score of 22.

Transfer, returning students, and those accepted with the pre-APSC designation must have achieved a grade of "C" or better in one natural science and one analytical reasoning course. The minimum level courses at UW-Stout that will fulfill this requirement are any natural science at or above the BIO-101, CHEM-105, NANO-101 or PHYS-139 level and any analytical reasoning at or above the MATH-118, STAT-130 or LOG-250 level. Equivalent courses taken at another institution may be used to meet this admissions requirement.

General Requirements Bachelor of Science Degree

Total for Graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry,

thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-156 Calculus and Analytic Geometry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Equivalent to MATH 153 and MATH 154.

Prerequisite: Math Placement Level 4 or completion of MATH-121.

Note(s):

If students choose MATH 153, one credit from either CHEM 136 College Chemistry II (5 cr.) or PHYS 282 University Physics II (5 cr.) will be applied to the ARNS requirement to complete 10 credits.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Major Studies (80 credits)

Required Core (3 credits)

Take the required Applied Science courses and choose one concentration to complete 120 credits.

APSC-101 Applied Science Profession I

(1 cr.)

Repeatable for Credit: No

Exploration of career areas of interest; examine appropriate interpretations of scientific measurements and experimental design.

APSC-401 Applied Science Profession II

(1 cr.)

Repeatable for Credit: No

Preparation for the science profession. Assess knowledge base, identify areas of strengths and weaknesses, define plan for further development. Build a professional portfolio and resume, and review interviewing skills. Explore methods of strategic planning and analysis for science professionals.

Must be Senior level or higher

APSC-349 Internship Experience in Applied Science

(1-2 cr.)

Repeatable for Credit: Yes: up to 12 cr., 4 times

Work and study in an approved position to gain practical experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. Three hundred twenty hours of work in this setting are required per credit.

Department Consent

(1 credit required)

Concentration Requirement (77 credits)

Choose an area of concentration from the following:

- Applied Physics (APP)
- Biology (BIO)
- Industrial Chemistry (INC)
- Interdisciplinary Science (IDS)
- Materials and Nanoscience (MNS)

Applied Physics Concentration Program Requirements

A minimum grade of 2.0 is required in all physics courses.

Required Courses (60-66 credits)

CEE-205 Circuit Analysis and Design

(4 cr.)

Repeatable for Credit: No

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real resistors/capacitors/inductors, steady state/transient behavior of circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory.

Prerequisite: take MATH-154 or MATH-157

ENGR-290 Circuits and Devices

(4 cr.)

Repeatable for Credit: No

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits.

Prerequisites: take MATH-154 and PHYS-282

CEE-355 Applied Electromagnetics

(4 cr.)

Repeatable for Credit: No

Engineering applications of electromagnetic fields applied to design of electronic systems that work properly in the presence of electronic noise and do not cause electronic noise to other systems. Concepts including crosstalk, shielding, filtering, grounding, power distribution and electrostatic discharge are addressed. Use of measurement and computer aided analysis tools.

Prerequisites: take CEE-205 and PHYS-282

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

ENGR-275 Thermodynamics & Heat Transfer

(3 cr.)

Repeatable for Credit: No

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisite: take PHYS-291 and MATH-250 (which may be taken concurrently)

or

ME-390 Engineering Thermodynamics

(3 cr.)

Engineering applications of thermodynamics.

Prerequisite: take PHYS 291 and MATH 250 (which may be taken concurrently). Mechanical Engineering students only

or

CHEM-321 Physical Chemistry

(4 cr.)

Repeatable for Credit: No

Foundations of thermodynamics and kinetics. Topics include laws of thermodynamics, states of matter and transformations, equilibrium, Gibbs free energy, prediction of spontaneous reactions, reaction rates, rate laws, and transition states.

Prerequisite(s): take CHEM 136 and MATH 153 or MATH 156

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

or

MATH-255 Differential Equations

(3 cr.)

Repeatable for Credit: No

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

Prerequisites: take either MATH-154 or MATH-157, and take MATH-275

MATH-275 Linear Algebra

(3 cr.)

Repeatable for Credit: No

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

NANO-230 Characterization Methods of Nanomaterials

(3 cr.)

Repeatable for Credit: No

Laboratory based course that covers basic techniques and theory of modern characterization methods of nanomaterials. Techniques include: electron microscopy, scanning probe microscopy, diffraction spectroscopy, and emission spectroscopy.

Prerequisites: take CHEM 135 or NANO 101

PHYS-139 Introduction to Research Methods in Physics

(3 cr.)

Analytic Reasoning & Natural Science - Natural Science

Repeatable for Credit: No

Work on cutting edge-physics experiments in teams. Develop verbal communication and scientific writing skills. Basics of experimental design and how to analyze and explain data. Experiments involving lasers, plasmas, and other topics. Develop skills required to work in teams. No previous physics knowledge needed.

Prerequisite: Math competency equivalent to Placement Level 2 or higher, or completion of MATH 120

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

or

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.

Prerequisite or co-requisite: MATH-154 or concurrent enrollment

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

PHYS-313 Introduction to Quantum Mechanics: A Modern Physics Approach

(3 cr.)

Repeatable for Credit: No

Introduction to quantum mechanics and its applications to atomic structure, molecular bonds, lasers, properties of condensed matter, and the structure of the nucleus.

Prerequisites: take PHYS 282

PHYS-335 Optics

(3 cr.)

Repeatable for Credit: No

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography.

Prerequisites: take PHYS-282, or take PHYS-242, MATH-154 and MATH-157

PHYS-381 Computational Classical Mechanics

(3 cr.)

Repeatable for Credit: No

Dynamics of particles, harmonic oscillations, central force problems, Lagrangian and Hamiltonian dynamics, and mechanics of rigid bodies, coupled oscillations. Use computational software to solve, analyze, and visualize equations of motion. Develop skills necessary to study advanced physics.

Prerequisites: take PHYS 281 or (PHYS 291 & ENGR 292) AND (MATH 250 or MATH 255)

PHYS-413 Quantum Mechanics

(3 cr.)

Repeatable for Credit: No

Develop theoretical framework for describing nanoscopic phenomena. Wave-particle duality, wave functions, Schrodinger's equation, quantized energy states, quantum tunneling, angular momentum and spin, time-dependent perturbation theory.

Prerequisites: take PHYS 313 and either MATH 250 or MATH 255

PHYS-427 Solid State and Condensed Matter Physics

(3 cr.)

Repeatable for Credit: No

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, energy bands and gaps, diffraction.

Prerequisites: take PHYS-282

PHYS-439 Advanced Physics Laboratory

(3 cr.)

Repeatable for Credit: No

Advanced experimental design skills, verbal communication skills, and written communication skills will be developed. Experiments involving lasers, plasma, and other topics. Develop skills required to lead a team of researchers.

Prerequisite: take PHYS 313

Technical Electives (11-17 credits)

Choose from from the following list of approved electives, and/or any 3XX level or higher courses with the following prefixes: CEE-, CS-, ENGR-, MATH-, ME-, or MSCS- to complete 120 credits.

CEE-215 Electronics

(4 cr.)

Repeatable for Credit: No

Introduction to the physics/modeling of semiconductor devices such as diodes and transistors. Biasing, small/large signal circuit behavior, temperature dependence. Differential/multistage/power amplifiers. Time and frequency response of devices and circuits, including operational amplifiers. Discussion of integrated circuit fabrication technology.

Prerequisite: Take CEE-205

CEE-235 Signals and Systems

(3 cr.)

Repeatable for Credit: No

Continuous-time and discrete-time signals and systems; representation and analysis of linear, time-invariant systems; differential and difference equations; convolution; Fourier, Laplace and Z-transforms; Fourier series; time- and frequency-domain analysis; sampling theorem; introduction to advanced signal processing topics.

Prerequisites: take CEE-205 and MATH-250

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-206 Organic Chemistry II Laboratory

(1 cr.)

Repeatable for Credit: No

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Prerequisite: take CHEM-201; Corequisite: take CHEM-204

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

CHEM-325 Chemistry of Polymers

(4 cr.)

Repeatable for Credit: No

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-341 Chemistry of Materials

(4 cr.)

Repeatable for Credit: No

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-365 Industrial Chemistry

(3 cr.)

Repeatable for Credit: No

Chemistry of industrial processes used in the production of organic and inorganic bulk chemicals and further transformation into commercial products. Aspects of intellectual property, business, and environmental concerns will also be discussed.

Prerequisite: take CHEM 136 or CHEM 341

CHEM-412 Advanced Biochemistry

(3 cr.)

Repeatable for Credit: No

Structure and function of enzymes and membrane-bound proteins, enzyme kinetics and mechanism, and regulatory mechanisms of metabolism at the molecular, cellular and organismal levels.

Prerequisite: take CHEM-311

CHEM-425 Inorganic Chemistry

(4 cr.)

Repeatable for Credit: No

Survey of inorganic chemistry, including: bonding, symmetry and group theory, molecular orbitals, electronic structure, donor-acceptor chemistry, crystalline solids, main-group chemistry, coordination chemistry, organometallics, bioinorganic chemistry and environmental chemistry.

Prerequisites: CHEM 136 , CHEM 201. Required for students in B.S. in Applied Science and the Industrial Chemistry Concentration.

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

MATH-158 Calculus III

(3 cr.)

Repeatable for Credit: No

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisite: take MATH-154 or MATH-157

MATH-262 Modern Geometry

(3 cr.)

Repeatable for Credit: No

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-270 Discrete Mathematics

(3 cr.)

Repeatable for Credit: No

Exploration of sets, relations, functions, formal logic, proof techniques, counting techniques, graphs, recurrence relations, and generating functions. Applications in mathematics and computer science.

Prerequisites: take either MATH-153 or MATH-156; not for students who took MATH-180

MSCS-280 Graph Theory with Applications in Computer Science

(3 cr.)

Repeatable for Credit: No

Principles of graph theory, computer representation of graphs, properties of general graphs, structure and properties of special graphs, flow networks, and computer applications of graph theory.

Prerequisites: Take CS-145 and take either MATH-180 or MATH-270

NANO-101 Explorations in Nanotechnology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Discussion of the main concepts in nanoscience with an exploration of societal and environmental impacts.

NANO-301 Nanostructures

(3 cr.)

Repeatable for Credit: No

Introduction to nanostructured materials, theory of processes to design materials with nanostructure, and properties and behavior of nanostructured materials.

Prerequisites: take NANO 230

NANO-401 Nanotechnology Applications

(3 cr.)

Repeatable for Credit: No

Review of current nanotechnology applications including societal effects.

Prerequisite: take NANO 230 and CHEM 341

PHYS-489 Advanced Physics Experience

(1-3 cr.)

Repeatable for Credit: Yes

Experience leading to a deeper understanding of principles and applications of physics.

Instructor's Consent Required

Must be Junior level or higher

Biology Concentration Program Requirements

Required Courses (46-47 credits)

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

BIO-235 Molecular Cell Biology II

(4 cr.)

Repeatable for Credit: No

Examination of molecular and cellular basis of eukaryotic life forms. Focus on bioenergetics, gene expression, signal transduction, and cancer. Laboratory manipulation of continuous eukaryotic cell lines.

Prerequisites: take BIO 136 and CHEM-136

BIO-242 Botany

(5 cr.)

Repeatable for Credit: No

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

BIO-252 Zoology

(5 cr.)

Repeatable for Credit: No

Investigation of vertebrate and invertebrate animal life, including phylogenetics, systematics, physiology, and behavioral characteristics.

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

BIO-386 Introduction to Biostatistical Analysis

(3 cr.)

Repeatable for Credit: No

Overview of quantitative analytical techniques applied to biological questions using the scientific method. Statistical procedures will encompass descriptive and inferential techniques including graphical display of data, quantitative description, hypothesis testing, and study design as applied to biological and health sciences.

Prerequisites: Take BIO 135, BIO 136, BIO 242, or BIO 252 ; and take MATH 121 or equivalent

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

BIO Technical Electives (30-31 credits)

Choose at least 30 credits from the following approved elective groups.

Biology Electives (12 credits)

Take at least 12 credits of any BIO-2XX or higher.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Science Electives (12 credits)

Take at least 12 credits of any 2XX or higher course with the following prefixes: ABMB, APSC, BIO, CNS, CHEM, ENSC, MATH, NANO, and PHYS.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Free Electives (6-7 credits)

Take enough credits (6-7 credits) to fulfill 120 total credits.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Industrial Chemistry Concentration Program Requirements

Required Courses (63-64 credits)

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-206 Organic Chemistry II Laboratory

(1 cr.)

Repeatable for Credit: No

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Prerequisite: take CHEM-201; Corequisite: take CHEM-204

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

CHEM-321 Physical Chemistry

(4 cr.)

Repeatable for Credit: No

Foundations of thermodynamics and kinetics. Topics include laws of thermodynamics, states of matter and transformations, equilibrium, Gibbs free energy, prediction of spontaneous reactions, reaction rates, rate laws, and transition states.

Prerequisite(s): take CHEM 136 and MATH 153 or MATH 156

CHEM-325 Chemistry of Polymers

(4 cr.)

Repeatable for Credit: No

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural

features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-365 Industrial Chemistry

(3 cr.)

Repeatable for Credit: No

Chemistry of industrial processes used in the production of organic and inorganic bulk chemicals and further transformation into commercial products. Aspects of intellectual property, business, and environmental concerns will also be discussed.

Prerequisite: take CHEM 136 or CHEM 341

CHEM-425 Inorganic Chemistry

(4 cr.)

Repeatable for Credit: No

Survey of inorganic chemistry, including: bonding, symmetry and group theory, molecular orbitals, electronic structure, donor-acceptor chemistry, crystalline solids, main-group chemistry, coordination chemistry, organometallics, bioinorganic chemistry and environmental chemistry.

Prerequisites: CHEM 136 , CHEM 201. Required for students in B.S. in Applied Science and the Industrial Chemistry Concentration.

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

PHYS-313 Introduction to Quantum Mechanics: A Modern Physics Approach

(3 cr.)

Repeatable for Credit: No

Introduction to quantum mechanics and its applications to atomic structure, molecular bonds, lasers, properties of condensed matter, and the structure of the nucleus.

Prerequisites: take PHYS 282

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

Technical Electives (14 credits)

Choose from the following list to complete at least 14 credits.

BIO-425 Proteomics

(3 cr.)

Repeatable for Credit: No

State-of-the-art training in proteomics. Solutions to biological research questions and operation of proteomics equipment such as chromatography devices and mass spectrometers.

Instructor's Consent Required

Prerequisite: take BIO-235 and CHEM-311 (co-enrollment in CHEM-311 is acceptable).

CHEM-341 Chemistry of Materials

(4 cr.)

Repeatable for Credit: No

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-412 Advanced Biochemistry

(3 cr.)

Repeatable for Credit: No

Structure and function of enzymes and membrane-bound proteins, enzyme kinetics and mechanism, and regulatory mechanisms of metabolism at the molecular, cellular and organismal levels.

Prerequisite: take CHEM-311

CHEM-452 Environmental Regulations Management

(3 cr.)

Repeatable for Credit: No

Laws governing environmental issues. Environmental regulations, applicability of the laws, and resources for interpreting the regulations. Evaluation of environmental research.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

CHEM-489 Advanced Chemistry Experience

(1-4 cr.)

Repeatable for Credit: Yes

Research experiences leading to a greater depth of understanding of chemical principles.

Instructor's Consent Required

Must be Sophomore level or higher

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

MATH-255 Differential Equations

(3 cr.)

Repeatable for Credit: No

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

Prerequisites: take either MATH-154 or MATH-157, and take MATH-275

MATH-275 Linear Algebra

(3 cr.)

Repeatable for Credit: No

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

NANO-230 Characterization Methods of Nanomaterials

(3 cr.)

Repeatable for Credit: No

Laboratory based course that covers basic techniques and theory of modern characterization methods of nanomaterials. Techniques include: electron microscopy, scanning probe microscopy, diffraction spectroscopy, and emission spectroscopy.

Prerequisites: take CHEM 135 or NANO 101

NANO-301 Nanostructures

(3 cr.)

Repeatable for Credit: No

Introduction to nanostructured materials, theory of processes to design materials with nanostructure, and properties and behavior of nanostructured materials.

Prerequisites: take NANO 230

NANO-401 Nanotechnology Applications

(3 cr.)

Repeatable for Credit: No

Review of current nanotechnology applications including societal effects.

Prerequisite: take NANO 230 and CHEM 341

PHYS-139 Introduction to Research Methods in Physics

(3 cr.)

Analytic Reasoning & Natural Science - Natural Science

Repeatable for Credit: No

Work on cutting edge-physics experiments in teams. Develop verbal communication and scientific writing skills. Basics of experimental design and how to analyze and explain data. Experiments involving lasers, plasmas, and other topics. Develop skills required to work in teams. No previous physics knowledge needed.

Prerequisite: Math competency equivalent to Placement Level 2 or higher, or completion of MATH 120

PHYS-222 Thermodynamics and Renewable Energy

(3 cr.)

Repeatable for Credit: No

Energy resources and the laws of thermodynamics with a focus on renewable energy as well as the technology required to harness and store it. Applications include photovoltaics, wind turbines, batteries, and solar ovens.

Prerequisite: MATH 121

PHYS-329 Atomic and Nuclear Physics

(3 cr.)

Repeatable for Credit: No

Elements of atomic and nuclear physics.

Prerequisites: take PHYS-242 or PHYS-282, and take MATH-154 or MATH-157

PHYS-413 Quantum Mechanics

(3 cr.)

Repeatable for Credit: No

Develop theoretical framework for describing nanoscopic phenomena. Wave-particle duality, wave functions, Schrodinger's equation,

quantized energy states, quantum tunneling, angular momentum and spin, time-dependent perturbation theory.

Prerequisites: take PHYS 313 and either MATH 250 or MATH 255

PHYS-427 Solid State and Condensed Matter Physics

(3 cr.)

Repeatable for Credit: No

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, energy bands and gaps, diffraction.

Prerequisites: take PHYS-282

PHYS-439 Advanced Physics Laboratory

(3 cr.)

Repeatable for Credit: No

Advanced experimental design skills, verbal communication skills, and written communication skills will be developed. Experiments involving lasers, plasma, and other topics. Develop skills required to lead a team of researchers.

Prerequisite: take PHYS 313

Interdisciplinary Science Concentration Program Requirements

Required Courses (42 credits)

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

BIO-235 Molecular Cell Biology II

(4 cr.)

Repeatable for Credit: No

Examination of molecular and cellular basis of eukaryotic life forms. Focus on bioenergetics, gene expression, signal transduction,

and cancer. Laboratory manipulation of continuous eukaryotic cell lines.

Prerequisites: take BIO 136 and CHEM-136

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

or

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

BIO-386 Introduction to Biostatistical Analysis

(3 cr.)

Repeatable for Credit: No

Overview of quantitative analytical techniques applied to biological questions using the scientific method. Statistical procedures will encompass descriptive and inferential techniques including graphical display of data, quantitative description, hypothesis testing, and study design as applied to biological and health sciences.

Prerequisites: Take BIO 135, BIO 136, BIO 242, or BIO 252 ; and take MATH 121 or equivalent

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-

sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

Technical Electives (11-17 credits)

Take enough credits at the 2XX level or higher in BIO, CHEM, NANO, or PHYS to reach 120 credits. At least 10 of these credits need to be at the 3XX level or higher.

Minor or Second Major

Students should work with a minor advisor to complete requirements. Different minors require different numbers of credits. Credits used in the minor cannot also be used as elective credits within the concentration with the exception of courses required in both the minor and the concentration.

-or-

Declare a second major in lieu of a minor. Students must work with both program directors to meet requirements for each major. Completion of two majors will exceed 120 credits.

Materials and Nanoscience Concentration Program Requirements

Required Courses (64-69 credits)

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-321 Physical Chemistry

(4 cr.)

Repeatable for Credit: No

Foundations of thermodynamics and kinetics. Topics include laws of thermodynamics, states of matter and transformations, equilibrium, Gibbs free energy, prediction of spontaneous reactions, reaction rates, rate laws, and transition states.

Prerequisite(s): take CHEM 136 and MATH 153 or MATH 156

CHEM-325 Chemistry of Polymers

(4 cr.)

Repeatable for Credit: No

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135

CHEM-341 Chemistry of Materials

(4 cr.)

Repeatable for Credit: No

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

NANO-401 Nanotechnology Applications

(3 cr.)

Repeatable for Credit: No

Review of current nanotechnology applications including societal effects.

Prerequisite: take NANO 230 and CHEM 341

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

PHYS-313 Introduction to Quantum Mechanics: A Modern Physics Approach

(3 cr.)

Repeatable for Credit: No

Introduction to quantum mechanics and its applications to atomic structure, molecular bonds, lasers, properties of condensed matter, and the structure of the nucleus.

Prerequisites: take PHYS 282

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

or

MATH-255 Differential Equations

(3 cr.)

Repeatable for Credit: No

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

Prerequisites: take either MATH-154 or MATH-157, and take MATH-275

MATH-275 Linear Algebra

(3 cr.)

Repeatable for Credit: No

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.

Prerequisite or co-requisite: MATH-154 or concurrent enrollment

or

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

STAT-331 Probability and Mathematical Statistics I

(3 cr.)

Repeatable for Credit: No

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, Poisson, normal, and gamma distributions.

Prerequisites: take MATH-154 or MATH-157. Prerequisite or concurrent enrollment in MATH-158

Properties (3 credits)

ENGR-315 Metallurgy

(3 cr.)

Repeatable for Credit: No

Properties of crystalline solids, mechanical behavior, phase diagrams, iron-carbon diagram, metallurgical structure, diffusion, phase transformation and heat treatment. Processing, properties, and applications of ferrous and non-ferrous alloys.

Prerequisite: take CHEM 341

Processing (3 credits)

Choose at least one materials processing course.

ETECH-202 Welding and Casting Processes

(3 cr.)

Repeatable for Credit: No

Lab intensive class utilizing various processes and parameters in the welding and foundry areas.

Prerequisite: take ETECH-110

ETECH-203 Machining Metal Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development.

Prerequisite: take ETECH-110

ETECH-204 Polymer Processes

(3 cr.)

Repeatable for Credit: No

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products.

Prerequisite: take ETECH-110

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products.

Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-341 Injection Molding Technology

(3 cr.)

Repeatable for Credit: No

Injection molding process parameters, part and tooling design, materials selection, quoting, rapid prototyping, troubleshooting, and cycle time reduction efforts. Laboratory experiments for understanding various technologies associated with injection molding of quality parts.

Prerequisite: take either ETECH-250 or ETECH-251

ETECH-342 Thermoform and Blow-Molding Technology

(3 cr.)

Repeatable for Credit: No

Part/mold design, film/sheet forming techniques, methods of heating, sheet stretching and cooling, draw ratio calculations, materials selection, part thinning, and other aspects of thermoforming. Laboratory experiments for understanding various technologies associated with thermoforming and blow molding of quality parts, including tooling options, failure analysis, and product design.

Prerequisite: take either ETECH-250 or ETECH-251

ETECH-343 Extrusion Technology

(3 cr.)

Repeatable for Credit: No

Extrusion and the various processes associated with extrusion; profile, flat film, blown film and die design. Laboratory experiments for understanding various technologies associated with extrusion of quality parts, including tooling options, failure analysis, and product design.

Prerequisite: take either ETECH-250 or ETECH-251

PLE-305 Extrusion Theory and Applications

(3 cr.)

Repeatable for Credit: No

Application of advanced theory in extrusion, extrusion blow molding, and thermoforming. Material specifications, part designs, die or mold designs, plasticating process and equipment, and control and monitoring systems will be emphasized.

Prerequisites: take ETECH-250, ENGR-275 and ETECH-210

PLE-310 Injection Molding Theory, Design and Application

(3 cr.)

Repeatable for Credit: No

Builds on basic injection molding knowledge with an emphasis on design, process cause and effect, troubleshooting, advanced molding techniques, cycle time reduction efforts, thermal management techniques, and rapid prototyping.

Prerequisites: take ETECH-341, ENGR-275, and ETECH-210

Performance (3 credits)

Choose at least one course in the materials performance category.

ENGR-294 Mechanics of Materials

(3 cr.)

Repeatable for Credit: No

Normal and shear stresses and strains. Stresses and deformations in objects subject to axial, torsional, and flexural loadings. Shear and bending moment diagrams. Stress transformations and principle stresses.

Prerequisite: take PHYS-291

ET-291 Strength of Materials

(3 cr.)

Repeatable for Credit: No

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

Prerequisite: take ET 290

PHYS-321 Statics and Strength of Materials

(4 cr.)

Repeatable for Credit: No

Static equilibrium conditions applied to trusses and frames. Application of friction. Relationship between stress and strain which includes thermal stresses. Characterizations of beams including corresponding deflections and internal stresses. Shear and bending moment diagrams. Combined stresses and strength of beam connections.

Prerequisite: take PHYS-241 or PHYS-281

PLE-360 Testing and Analysis of Plastics

(3 cr.)

Repeatable for Credit: No

Mechanical, rheological, and thermal properties of plastics. Theoretical principles are combined with laboratory experimentation to identify and characterize plastics in order to evaluate how the properties relate to processing and part performance.

Prerequisites: take ENGR-275, ENGR-294, and CHEM-325

Structure (6 credits)

NANO-301 Nanostructures

(3 cr.)

Repeatable for Credit: No

Introduction to nanostructured materials, theory of processes to design materials with nanostructure, and properties and behavior of nanostructured materials.

Prerequisites: take NANO 230

PHYS-427 Solid State and Condensed Matter Physics

(3 cr.)

Repeatable for Credit: No

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, energy bands and gaps, diffraction.

Prerequisites: take PHYS-282

Characterization (3-11 credits)

Take NANO-230 at minimum from this group of materials characterization courses.

NANO-230 Characterization Methods of Nanomaterials

(3 cr.)

Repeatable for Credit: No

Laboratory based course that covers basic techniques and theory of modern characterization methods of nanomaterials. Techniques include: electron microscopy, scanning probe microscopy, diffraction spectroscopy, and emission spectroscopy.

Prerequisites: take CHEM 135 or NANO 101

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

Technical Electives (8-13 credits)

Choose from from the following list of approved electives to complete 120 credits.

CEE-205 Circuit Analysis and Design

(4 cr.)

Repeatable for Credit: No

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real resistors/capacitors/inductors, steady state/transient behavior of circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory.

Prerequisite: take MATH-154 or MATH-157

CEE-225 Digital Logic

(3 cr.)

Repeatable for Credit: No

Analysis and design of combinational and sequential logic circuits. Boolean algebra, number systems and logic gates. Realization of Boolean Functions. Synchronous and asynchronous sequential logic: counters and registers. Finite state machines, state transitions and state equivalence. Logic circuit simulation. Discrete gates and array logic laboratory experiments.

Prerequisite: take CEE-205 (or concurrent registration)

CEE-235 Signals and Systems

(3 cr.)

Repeatable for Credit: No

Continuous-time and discrete-time signals and systems; representation and analysis of linear, time-invariant systems; differential and difference equations; convolution; Fourier, Laplace and Z-transforms; Fourier series; time- and frequency-domain analysis; sampling theorem; introduction to advanced signal processing topics.

Prerequisites: take CEE-205 and MATH-250

CEE-325 Digital System Design

(3 cr.)

Repeatable for Credit: No

Analysis of combinational and sequential logic and state machine designs. Circuit realization utilizing CADD tools on field programmable gate array devices. Behavioral and structural modeling of digital system designs through implementation of computer system components, and memory using hardware description language.

Prerequisites: Take CEE-205 and CEE-225

CEE-345 Microprocessor System Design

(3 cr.)

Repeatable for Credit: No

Study of the internal organization of microprocessors, instruction sets, timers and interrupts, and serial and parallel ports programming using Assembly and C languages. The design and interfacing of peripherals for a selected microprocessor and use of debugger hardware including an in-circuit serial programmer unit.

Prerequisites: take CEE-325 and CS 244

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-206 Organic Chemistry II Laboratory

(1 cr.)

Repeatable for Credit: No

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Prerequisite: take CHEM-201; *Corequisite:* take CHEM-204

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-365 Industrial Chemistry

(3 cr.)

Repeatable for Credit: No

Chemistry of industrial processes used in the production of organic and inorganic bulk chemicals and further transformation into commercial products. Aspects of intellectual property, business, and environmental concerns will also be discussed.

Prerequisite: take CHEM 136 or CHEM 341

CHEM-425 Inorganic Chemistry

(4 cr.)

Repeatable for Credit: No

Survey of inorganic chemistry, including: bonding, symmetry and group theory, molecular orbitals, electronic structure, donor-acceptor chemistry, crystalline solids, main-group chemistry, coordination chemistry, organometallics, bioinorganic chemistry and environmental chemistry.

Prerequisites: CHEM 136 , CHEM 201. Required for students in B.S. in Applied Science and the Industrial Chemistry Concentration.

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

CHEM-440 Advanced Materials Laboratory

1-(3 cr.)

Repeatable for Credit: Yes

Student-devised laboratory experiments to solve a materials problem provided by the instructor.

Instructor's Consent Required

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

CHEM-489 Advanced Chemistry Experience

(1-4 cr.)

Repeatable for Credit: Yes

Research experiences leading to a greater depth of understanding of chemical principles.

Instructor's Consent Required

Must be Sophomore level or higher

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

CS-245 Introduction to Computer Organization

(3 cr.)

Repeatable for Credit: No

Basic concepts in computer systems including computer structure, machine language, assembly languages, addressing techniques, macros, file I/O, program segmentation and linkage.

Prerequisite: take CS-145

CS-441 Computer Architecture

(4 cr.)

Repeatable for Credit: No

Fundamentals in modern computer technology, focusing on hardware. Design, operation, and interconnections of the major computer system components consisting of the CPU, memory, and I/O modules.

Prerequisite: take CS-244

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-260 Electrical Circuits

(3 cr.)

Repeatable for Credit: No

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take ET 204, MATH 153 and either PHYS 242 or PHYS 282

ET-271 Digital Logic and Switching

(3 cr.)

Repeatable for Credit: No

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebra and number systems, switching functions, minimization, single and multiple output networks, realization of functions, programmable logic devices. Finite state sequential machines, state transition diagrams, machines and state equivalence. Algorithmic state machines and asynchronous state machines.
Prerequisite: take ET-260

ET-272 Solid State Electronics

(3 cr.)

Repeatable for Credit: No

Basic semiconductor theory dealing with signals, operational amplifiers, diodes, bipolar junction and field effect transistor, frequency response, feedback, and circuit analysis.

Prerequisite: take ET 260

ET-320 Prototype Development and Model Making

(3 cr.)

Repeatable for Credit: No

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three- dimensional objects using traditional and nontraditional machining and forming techniques. Three-dimensional design problems form the core of this course.

Prerequisites: take ETECH-110 or ETECH-150 or PKG-210

ETECH-110 Materials and Manufacturing Processes

(3 cr.)

Repeatable for Credit: No

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

ETECH-150 Introduction to Engineering Materials

(3 cr.)

Repeatable for Credit: No

Exposure to engineering materials, their properties, and behavior. topics will include: material types, testing, mechanical properties, heat treatment, and material selection. Students are expected to have had H.S. chemistry.

Math Placement >= MATH-120, or MATH-150

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

ETECH-250 Introduction to Plastics

(3 cr.)

Repeatable for Credit: No

Examine basics of molecular structure, mechanical behavior, and rheological properties of plastics. Overview of plastics processing, new technologies related to processing, post-consumer-life, and introduction to ASTM/ISO standards used for testing and materials characterization.

Prerequisite: take either ETECH-150, ETECH 100, or ETECH 110

ETECH-256 Engineering Graphics Fundamentals and Solid Modeling

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate CAD (modeling) software, visualization, geometric concepts and dimensioning basics.

ETECH-460 Advanced Manufacturing with 3D Printing

(3 cr.)

Repeatable for Credit: No

Overview of various advanced manufacturing technologies, applications, materials used in 3D printing, design of parts, assemblies, and processes for 3D printing. Laboratory aspect with emphasis on design, artifact characterization and improvement of 3D print manufacturing parameters.

Prerequisites: ETECH 210 or ETECH 256 or instructor consent

MATH-158 Calculus III

(3 cr.)

Repeatable for Credit: No

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisite: take MATH-154 or MATH-157

NANO-101 Explorations in Nanotechnology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Discussion of the main concepts in nanoscience with an exploration of societal and environmental impacts.

NANO-110 Introduction to Vacuum Technology

(2 cr.)

Repeatable for Credit: No

Principle concepts associated with vacuum technology and the critical components of a vacuum system. Basic vacuum system functions and characteristics. Lab course with a model vacuum system.

PHYS-139 Introduction to Research Methods in Physics

(3 cr.)

Analytic Reasoning & Natural Science - Natural Science

Repeatable for Credit: No

Work on cutting edge-physics experiments in teams. Develop verbal communication and scientific writing skills. Basics of experimental design and how to analyze and explain data. Experiments involving lasers, plasmas, and other topics. Develop skills required to work in teams. No previous physics knowledge needed.

Prerequisite: Math competency equivalent to Placement Level 2 or higher, or completion of MATH 120

PHYS-329 Atomic and Nuclear Physics

(3 cr.)

Repeatable for Credit: No

Elements of atomic and nuclear physics.

Prerequisites: take PHYS-242 or PHYS-282, and take MATH-154 or MATH-157

PHYS-335 Optics

(3 cr.)

Repeatable for Credit: No

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography.

Prerequisites: take PHYS-282, or take PHYS-242, MATH-154 and MATH-157

PHYS-381 Computational Classical Mechanics

(3 cr.)

Repeatable for Credit: No

Dynamics of particles, harmonic oscillations, central force problems, Lagrangian and Hamiltonian dynamics, and mechanics of rigid bodies, coupled oscillations. Use computational software to solve, analyze, and visualize equations of motion. Develop skills necessary to study advanced physics.

Prerequisites: take PHYS 281 or (PHYS 291 & ENGR 292) AND (MATH 250 or MATH 255)

PHYS-413 Quantum Mechanics

(3 cr.)

Repeatable for Credit: No

Develop theoretical framework for describing nanoscopic phenomena. Wave-particle duality, wave functions, Schrodinger's equation, quantized energy states, quantum tunneling, angular momentum and spin, time-dependent perturbation theory.

Prerequisites: take PHYS 313 and either MATH 250 or MATH 255

PHYS-439 Advanced Physics Laboratory

(3 cr.)

Repeatable for Credit: No

Advanced experimental design skills, verbal communication skills, and written communication skills will be developed. Experiments involving lasers, plasma, and other topics. Develop skills required to lead a team of researchers.

Prerequisite: take PHYS 313

PHYS-489 Advanced Physics Experience

(1-3 cr.)

Repeatable for Credit: Yes

Experience leading to a deeper understanding of principles and applications of physics.

Instructor's Consent Required

Must be Junior level or higher

PKG-150 Packaging Fundamentals

(3 cr.)

Repeatable for Credit: No

Explore the purpose of packaging materials and manufacturing methods, including global perspectives, history, environment, market and consumer needs.

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal

(3 cr.)

Repeatable for Credit: No

Technical exploration of paper, wood, adhesives and metal used in packaging worldwide. Material properties and international production processes, applications, environmental impacts of paper, wood, adhesives, and metal.

Prerequisites: take PKG-150 and CHEM-135

PKG-220 Packaging Materials: Polymers and Glass

(3 cr.)

Repeatable for Credit: No

Technical exploration of polymers and glass used for packaging worldwide. Material properties, production processes, applications, environmental impacts of polymers and glass.

Prerequisites: take PKG-150 and CHEM-135, BS Packaging students only

PKG-385 Medical Packaging

(3 cr.)

Repeatable for Credit: No

Practical knowledge of special requirements for medical devices and pharmaceuticals packaging. Discussion and evaluation of package systems, packaging procedures.

Prerequisite: take PKG-250

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

ENGR-275 Thermodynamics & Heat Transfer

(3 cr.)

Repeatable for Credit: No

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisite: take PHYS-291 and MATH-250 (which may be taken concurrently)

ME-390 Engineering Thermodynamics

(3 cr.)

Engineering applications of thermodynamics.

Prerequisite: take PHYS 291 and MATH 250 (which may be taken concurrently). Mechanical Engineering students only

PHYS-222 Thermodynamics and Renewable Energy

(3 cr.)

Repeatable for Credit: No

Energy resources and the laws of thermodynamics with a focus on renewable energy as well as the technology required to harness and store it. Applications include photovoltaics, wind turbines, batteries, and solar ovens.

Prerequisite: MATH 121

Applied Social Science, B.S.

Go to [program website](#)

Applied Social Science, B.S. 4-year sequences:

- Economics Concentration
- History and Politics Concentration
- Sociology and Anthropology Concentration

Introduction

The Applied Social Science degree at UW-Stout is designed to provide graduates with both marketable jobs skills and the flexibility to adapt to the rapidly changing nature of U.S. society. The degree has four major emphases providing students with 1) social science theoretical perspectives, 2) a solid knowledge base in the social sciences and history, 3) the ability to apply critical thinking skills to creatively solve practical problems in the social, economic and political arenas, and 4) strong leadership and interpersonal skills in an increasingly diverse and changing workforce. Having both social science theoretical perspectives and a solid foundation in social science knowledge, students will be able to apply critical and creative thinking skills to successfully problem solve in their future employment fields. Upon completion of their Applied Social Science degree, students will have skills in data collection, evaluation and

analysis, presentation, and problem solving.

The program is interdisciplinary and provides breadth of knowledge through coursework in the areas of economics, history, political science, geography, psychology, anthropology, and sociology. It offers depth of knowledge by giving students the opportunity to select a concentration in an area of social science with additional, upper-level courses. It also offers students an opportunity to enhance their broad knowledge in the social sciences through completion of a complementary applied minor or by completing additional applied coursework, in preparation for employment in areas such as environmental analysis, global studies, human resources and other services. Students must receive a minimum grade of 2.0 or "C-" in all Professional Core and Social Science Concentration courses.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Core	34 credits
Concentration	24 credits
Applied Area or Minor	21-24 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

MATH-120 Introductory College Mathematics I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytical Reasoning

Repeatable for Credit: No

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations.

Prerequisite: Math Placement Level 2 or completion of MATH-90.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Additional Courses:

Remaining courses must include a natural science with a lab and additional coursework as needed to reach the 10-credit requirement.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy. Remaining 3 credits may not include HIST

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Core (34 credits)

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

GEOG-104 World Geography

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

An introduction to how the discipline of geography makes sense of the world, its diverse people, places, and regions. Emphasis is on the interaction between culture and landscape and how those interactions create unique places.

GEOG-251 Introduction to Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Experience, using state of the art GIS and GPS equipment and theoretical background explaining the many roles GIS technology has in displaying analyzing spatial problems. Major components include computer representation of geographic information, fundamentals of cartography, construction of GIS databases, spatial analysis, and application areas of GIS.

POLS-210 American Government

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

SOC-110 Introductory Sociology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Introduction to sociological theories and methods in the study of social groups, interaction, inequality, and institutions. The place of the U.S. in a global context; comparisons of contemporary U.S. society with other societal and historical contexts. Processes of social location and inequalities, especially those pertaining to race/ethnicity.

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

APSS-100 Introduction to Applied Social Science

(1 cr.)

Repeatable for Credit: No

Introduction to social science ideas, ethics and practices. Acquaints students with the Applied Social Science program structure and choices, as well as potential job opportunities in the field.

APSS-300 Quantitative Research Methods

(3 cr.)

Repeatable for Credit: No

Second of three social science research methods courses for the Applied Social Science major; advanced methodological issues of quantitative inquiry; practical issues of application and evaluation of research tools.

APSS-301 Qualitative Research Methods

(3 cr.)

Repeatable for Credit: No

This course will introduce students to the research process, including how to synthesize previous research and theories in the process of designing their own research project. In addition, students will learn qualitative methodologies of inquiry commonly used in the social sciences and history. These will include, but not be limited to, ethnography, content analysis, interviews, visual and media analysis, contextualization practices in time and space and archival research. Students will become familiar with ethical issues in the data collection and analysis process. Students will learn to construct research questions that frame social problems and address them with systematic, thoughtful and thorough qualitative data collection and analysis while using advanced 'toolkits' of a social analyst and appropriate software.

APSS-400 Applied Social Science Capstone

(5 cr.)

Repeatable for Credit: No

Capstone experience for the undergraduate major in Applied Social Science; students will develop and conduct an applied research project using theory and evidence to analyze a chosen social scientific, historical or interdisciplinary topic and communicate the results; contextualize data and primary sources; hone professional writing skills and use their skills in career planning.

Prerequisite: take APSS-300 and APSS 301; or consent of instructor

APSS-450 Bricolage, Bridges, and Transdisciplinary Analysis

(3 cr.)

Repeatable for Credit: No

This course teaches students how to create meaningful transdisciplinary narratives that combine the myriad skills and modes of analysis found in the Applied Social Science program. This includes a sophisticated foray into what it means to think, write and enact the interdisciplinary methodology of the Applied Social Science program. This course will teach students how and why interdisciplinary methodologies are essential tools in framing themselves and their research in relation to the world at large.

Prerequisites: Senior standing or consent of instructor and APSS 400 .

Concentrations (24 credits)

History and Politics (24 credits)

HIST-120 Early United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War.

HIST-121 Modern United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War.

POLS-315 Public Policy Analysis

(3 cr.)

Repeatable for Credit: No

Analysis of origins of public policy and policy- making process. Specific case studies of public policy.

POLS-340 International Relations

(3 cr.)

Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems.

Additional Courses:

- Choose an additional 12 credits of HIST/POLS courses to fulfill the 24-credit requirement.

Economics (24 credits)

ECON-410 Microeconomics

(3 cr.)

Repeatable for Credit: No

Value and distribution theory; analysis of demand- firm, industry and utility; pricing of production factors.

Prerequisite: take ECON-215

ECON-415 Macroeconomics

(3 cr.)

Repeatable for Credit: No

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment.

Prerequisite: take ECON-215

ECON-445 Public Finance

(3 cr.)

Repeatable for Credit: No

Public finance at all governmental levels; taxation, expenditures, debt management and fiscal policy.

Prerequisites: take either ECON-201 or ECON-210

POLS-315 Public Policy Analysis

(3 cr.)

Repeatable for Credit: No

Analysis of origins of public policy and policy- making process. Specific case studies of public policy.

Additional Courses:

- Choose an additional 15 credits of ECON courses at level 200 or higher to fulfill the 24-credit requirement.

Sociology/Anthropology (24 credits)

ANTH-400 Applied Anthropology

(3 cr.)

Repeatable for Credit: No

Application of anthropology to address social problems through research, advocacy, and policy development. Cross-cultural case studies and community outreach through service learning or career oriented research project that incorporates ethnographic fieldwork strategies, critical reflection on human rights, social justice, and research ethics.

Prerequisite: take ANTH-220

ANTH-330 Social Theory

(3 cr.)

Repeatable for Credit: No

Learning and applying advanced sociological and anthropological theories to social issues. Understanding various tools of explanation in the social sciences, as well as their origins, assumptions, and specific ways-of-knowing. Building a theoretical toolkit with the ability to compare, evaluate and synthesize theories for particular applications.

SOC-330 Social Theory

(3 cr.)

Repeatable for Credit: No

Learning and applying advanced sociological and anthropological theories to social issues. Understanding various tools of explanation in the social sciences, as well as their origins, assumptions, and specific ways-of-knowing. Building a theoretical toolkit with the ability to compare, evaluate and synthesize theories for particular applications.

ANTH-230 Anthropology of the Contemporary United States

(3 cr.)

Racial & Ethnic Studies Category A, Social and Behavioral Science - Anthropology, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Use of theoretical and conceptual principles and perspectives of cultural anthropology to study communities and cultures in the U.S. Examination of race, class, gender, and sexual inequalities; current Native American issues; kinship; religion; militarism; cultures of science and technology.

SOC-225 Social Problems

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological analysis of current social problems in the U.S. and the world.

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work. Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

SOC-355 Social Psychology

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Sociological theory and approaches to interaction, the social construction of meaning, and identities. Explore the intersections of social structure, culture, and the self. Application to contemporary social issues.

Additional Courses:

- *Choose an additional 12 credits of SOC/ANTH courses at level 200 or higher to fulfill the 24-credit requirement.*

Minors

Other applied studies or minors, with program director approval, including student-designed applied coursework option.

- Applied Peace Studies Minor
- Business Administration Minor
- Communication Studies Minor
- Disability Services Minor
- Economics Minor
- English Writing and Literature Minor
- Geographic Information Systems Minor

- History Minor
- Human Development and Family Studies Minor
- Human Resource Management Minor
- Journalism Minor
- Military Leadership Minor
- Project Management Minor
- Photography and Video Minor
- Psychology Minor
- Sociology Minor
- Spanish Minor
- Sustainability Minor
- Women and Gender Studies Minor
- Workplace Diversity Minor
- Social Work Certificate

Art Education, B.S.

Go to [program website](#)

Introduction

The Art Education program provides students with experience in liberal studies, art history, studio art and professional education. It is a Bachelor of Science degree program that prepares students for certification by the Department of Public Instruction for teaching art in elementary and secondary schools. An understanding of general studies, art history, the present status of art and the educational environment, with an inquisitive approach toward problem solving, will move students to a professional level. Experienced art and design faculty ensure current course content and serve as advisers for students. Pre-teaching observation, presented at the sophomore level, provides students with an early involvement in elementary and secondary schools. A required mid-program review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. An optional 11 credit additional concentration in Adaptive Education is available.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

A mid-program portfolio review and a screening for continuation in the Art Education program are required for graduation. Before student teaching, students must have a minimum overall grade point average of 2.75, successfully complete the standardized content examination required by the Wisconsin Department of Public Instruction, compile a professional education portfolio and be fully admitted from pre-Art Education status to the Art Education program. Students present an exhibition of their work during one semester of their senior year. Students must achieve a minimum grade of "C" (2.0) or better in each class, achieve a 2.75 grade point average in all art, art education, art history, design, and professional education courses, and successfully complete student teaching at both primary and secondary levels before graduation.

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

A grade of "C" or better is required in English and speech.

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

Additional Courses:

Remaining courses must be from the areas of analytic reasoning and natural sciences; at least one natural science course with a lab is required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Remaining 3 credits may not include HIST

PHOTO-204 Exploring Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Fundamentals of analog and digital photography with an emphasis on technical processes, principles of composition, aesthetics and paradigms of visual literacy. Students must provide a digital camera with a manually adjustable shutter and aperture.

Additional Courses:

Choose 3 additional credits from literature.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

Selective (3 credits)

Choose a selective course which requires a grade of "C" or better

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

Major Studies (80 credits)

Art and Design Requirements (24 credits)

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-213 Ceramics I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

Advanced Studio Selective (6 credits)

Select courses/credits from one studio focus area.

Art History Requirements (12 credits)

ART-307 Aesthetics in the Studio

(3 cr.)

Repeatable for Credit: No

Introduction to the problems of aesthetics, such as interpretation, creation, and experience of art as it relates to studio practices.

Prerequisites: Take ARTH-223 and ARTH-224; and take ARTH-336 or ARTH-337 (may be taken concurrently). Also, one 300-level or higher studio Art must be taken concurrently.

- ARTH-XXX *Non-Western elective* (3.00 cr)

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-336 Modern Art

(3 cr.)

Repeatable for Credit: No

The main currents and developments in art from Monet and Cezanne to 1950.

ARTH-337 Art Since 1950

(3 cr.)

Repeatable for Credit: No

Developments in painting and sculpture in Europe and America since 1950.

Prerequisite: take ARTH-224 with a grade of C or better

Professional Education Requirements (38 credits)

ARTED-108 Introduction to Art Education

(2 cr.)

Repeatable for Credit: No

Fundamental, historical and philosophic components of Art Education with an emphasis on discipline-based Art Education.

ARTED-208 Contemporary Theory and Curricular Practices in Art Education

(3 cr.)

Repeatable for Credit: No

Seminar and practicum course designed to combine theory and practice in K-12 art instruction. The seminar is devoted directly toward contemporary theory surrounding K-12 art education. The practicum involves 30 hours of partnered art classroom participation, including the planning, instruction, and assessment of an art lesson.

Department Consent

Prerequisites: take ARTED-108 and Benchmark I

ARTED-308 K-12 Art Education Theory, Methods, and Practice

(4 cr.)

Repeatable for Credit: No

Theory, methods, and curriculum development in art education including K-12 art teaching practicum in selected elementary and secondary art classrooms.

Prerequisites: take ARTED-208 and ARTH-223 and Benchmark I completion

ARTED-408 Student Teaching in Art Education - Elementary

(8 cr.)

Repeatable for Credit: No

Directed teaching in elementary art; required student teaching seminars, on-line course participation, and completion of portfolio.

Department Consent

Prerequisite: Benchmark I completion

ARTED-409 Student Teaching in Art Education - Secondary

(8 cr.)

Repeatable for Credit: No

Directed teaching in secondary art; required student teaching seminars, on-line course participation, and completion of portfolio.

Department Consent

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

EDUC-415 Classroom Management

(2-3 cr.)

Repeatable for Credit: No

Technique and theory for motivating PreK-grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences.

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/current/ugbmi.cfm.

- Pass one of the following skills tests: PPST, CORE, ACT, SAT or GRE. Test scores and test completion dates must meet required specifications as detailed on the SOE web page listed above
- Pass the required teacher background check
- Earn a grade of at least 2.00 (C) in ENGL 101 or ENGL 102 or ENGL 111 and ENGL 113
- Earn a grade of at least 2.00 (C) in COMST 100
- Earn a minimum grade of 2.00 (C) in ARTED-108 Introduction to Art Education course
- Complete EDUC-326 Foundations of Education.
- Satisfactorily complete Benchmark I Review

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/current/ugbmii.cfm.

- Complete Application for Student Teaching form
- Maintain a 2.75 grade point average
- Pass Content Knowledge Exam (*Praxis II*)
- Receive clearance through an updated background check
- Complete a satisfactory tuberculosis (*TB*) test
- Receive satisfactory portfolio assessment by faculty
- Receive satisfactory rating on Benchmark II Student Interview
- Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/current/ugbmiii.cfm.

- Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- Complete all program coursework
- Meet all program-specific requirements
- Student teach at two levels: Elementary School and High School.
- Receive a satisfactory student teaching assessment

Business Administration, B.S.

Go to [program website](#)

Business Administration, B.S.: 4-year sequence, 3-year sequence

Introduction

The Business Administration program at UW-Stout is unique in that it blends business with technology. The program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP). It has a solid foundation of general-liberal studies and covers the functional areas of marketing, manufacturing, finance, personnel, accounting and law. It also requires comprehensive courses in policies, management information systems, leadership, and the legal and ethical aspects of management. The unique aspect of requiring a minor allows a student to tap one or more of UW-Stout's unique connections to business and industry areas such as property management, construction, human resource management, enterprise technology, logistics management, loss control, packaging, quality management, training, retail management, hospitality and tourism management, and many more to complement the business program.

Keeping pace with the demands of the ever-changing business environment, the business degree at UW-Stout has added a concentration in supply chain management. Recognizing that this is a specialized skill that is being driven by globalization, cost control and increased customer service levels and high-quality requirements; the business program has reached out to give our students an opportunity to specialize in this critical area of commerce. Supply chain management encompasses all logistics management activities. Since this area of business integrates supply and demand management within and across companies and represents approximately 70 to 80 percent of the cost structure of a typical company; it is necessary to operate an efficient supply chain in order to compete. Thus, businesses have deemed this to be a critical business function and skill.

1. Recent graduates have obtained positions in areas of sales, project management, retail management, production control, manufacturing supervision, purchasing, cost accounting,

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Preparation	6 credits
Major Studies	64 credits
Minor/Specialization	15-31 credits
Supply Chain Management Concentration	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech

organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the approved areas of analytic reasoning and natural sciences. At least one natural science course with a lab is required.

MATH-123 Finite and Financial Mathematics with Applications

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Topics in business-related mathematical problem solving including simple and compound interest, annuities, mortgages, supply and demand, break-even analysis. Best-fit lines, problem solving with systems of linear equations, linear programming, matrices, Gaussian elimination, set theory, Venn diagrams, permutations, combinations, basic and conditional probability, expected value.

Prerequisites: Math Placement Level 2 or completion of MATH-90 with a grade of C+ or better.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

BUMGT-235 Management Ethics

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical issues organizational decision-makers face in developing stakeholder policies. Understanding essential ethical theories in relation to a broad array of management functions, concepts of corporate social responsibility and development of organizational

ethics programs.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any Gen Ed category to meet the 40-credit Gen Ed requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Preparation (6 credits)

Problem Solving (3 credits)

Select one course:

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

LOG-250 Critical Thinking

(3 cr.)

Repeatable for Credit: No

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies.

LOG-301 Introduction to Logical Thinking

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem-solving strategies based on induction and on categorical and propositional deduction.

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

BUSCM-460 Supply Chain Management Design I Capstone

(4 cr.)

Repeatable for Credit: No

Synthesizing capstone experience focuses on planning, diagnosing and analyzing root causes of poor supply chain cost, service and operational performance. Students analyze and diagnose supply chains for strategy, organization, process, technology, business models, best practices, and information and material flow.

Prerequisites: take BUSCM-338, INMGT 296 , INMGT-320, INMGT 350, INMGT-365, INMGT-405, BUSCM-437, and BUACT 312.

Business Writing (3 credits)

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (64 credits)

Business Core (31 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

BUMGT-100 Introduction to Business Administration

(1 cr.)

Repeatable for Credit: No

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities.

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

INMGT-200 Production and Operations Management

(3 cr.)

Repeatable for Credit: No

A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.

Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-210 Service Operations Management

(3 cr.)

Repeatable for Credit: No

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge

(PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

Professional Core (21-23 credits)

A minimum 2.5 grade point average is required overall or for the last 64 credits used in the Business Administration program.

Accounting (3 credits)

BUACT-312 Cost Accounting

(3 cr.)

Repeatable for Credit: No

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting.

Prerequisite: take BUACT-206

BUACT-320 Income Tax Accounting

(3 cr.)

Repeatable for Credit: No

Introduction of accounting and legal concepts underlying individual federal income tax laws applicable to gross income, exclusions, business and non-business deductions, gains and losses, credits and tax computations.

Prerequisite: take BUACT-206

BUACT-335 Accounting for Management Decisions

(3 cr.)

Repeatable for Credit: No

Principles, techniques and use of accounting information to make management decisions in planning, operating and controlling activities of a business.

Prerequisite: take BUACT-207

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Marketing (3 credits)

BUMKG-334 Professional Selling and Market Development

(3 cr.)

Repeatable for Credit: No

Overview of selling as a profession; building relationships; the selling process, including prospecting, preparing, presenting, handling objections, closing, and servicing accounts; developing markets; and territory management.

Prerequisites: take BUMKG-330

BUMKG-335 Sales Management

(3 cr.)

Repeatable for Credit: No

Comprehensive survey of sales force management; organizing, staffing, and training a sales force; directing sales force operations; sales planning; and evaluating sales performance.

Prerequisite: take BUMKG-334

BUMKG-350 Digital Marketing Strategy and Practice

(3 cr.)

Repeatable for Credit: No

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans.

BUMKG-370 Integrated Marketing Communications

(3 cr.)

Repeatable for Credit: No

Fundamentals of integrated marketing communications; integration of elements of the promotional mix, including advertising, sales promotions, public relations, online marketing, social media and other modern methods of marketing communication.

Prerequisites: take BUMKG-330

BUMKG-385 Target Marketing

(3 cr.)

Repeatable for Credit: No

The study and application of methods used to identify viable market segments; use of demographic, psychographic and cultural research findings to successfully market products and services to various market segments.

Prerequisites: take BUMKG-330

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

BUMKG-479 Marketing Research

(3 cr.)

Repeatable for Credit: No

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management.

Prerequisites: take BUMKG-330 & either STAT 130, STAT-320, or STAT-331

BUINB-485 International Marketing

(3 cr.)

Repeatable for Credit: No

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms.

Prerequisites: take BUMKG-330

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Human Resources (2-3 credits)

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

PSYC-403 Management of Employee Reward Systems

(3 cr.)

Repeatable for Credit: No

Issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits.

Prerequisite: take PSYC-382

PSYC-485 Recruitment & Selection of Human Resources

(3 cr.)

Repeatable for Credit: No

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development.

Prerequisite: take PSYC 381 or PSYC-382

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Legal (2-3 credits)

BULGL-319 Business Law II

(3 cr.)

Repeatable for Credit: No

A continuation of Business Law I; includes property, secured transactions, bankruptcy, estates, commercial paper, partnerships, and corporations.

Prerequisites: take BULGL-318

BULGL-401 Legal Environment of Business

(3 cr.)

Repeatable for Credit: No

Legal influences and the changing relationship of government and industry: regulatory legislation, ethical implications, administrative agencies, national policies and social control.

PM-365 Principles of Real Estate

(3 cr.)

Repeatable for Credit: No

Examine real estate issues relating to property ownership, financing, land use control, transferring interest in real estate through real estate contracts and deeds, leasing and managing property and understanding agents' pre-license and brokerage requirements.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Integrated Systems (3 credits)

BUMGT-480 Entrepreneurship: Small Business Planning

(3 cr.)

Repeatable for Credit: No

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business-- start-up, buy out, franchise--legal and financial aspects. Preparing a business plan required.

Prerequisite: take BUMKG-330 or BUACT-206 or BUACT-200

BUMGT-490 Strategic Management and Business Policy

(3 cr.)

Repeatable for Credit: No

Formulate, implement, and evaluate strategies in the context of a dynamic, global business environment. Optimize critical thinking, reasoning, problem solving and presentation skills while becoming familiar with the knowledge, roles, and responsibilities required of

managers.

Prerequisites: Must be Senior level or higher; take BUMKG-330 and BUFIN 340 ; and take ECON-201 or ECON-210

BUSCM-461 Supply Chain Management Design II Capstone

(4 cr.)

Repeatable for Credit: No

Continuation of Supply Chain Design I focusing on design, model and recommended integrated supply chain solutions from the perspective of strategy, people, technology, business models, and best practices for managing the flow of goods and information across the supply chain.

Prerequisite: take BUSCM-460

Course Selective-1 :

Choose a selective to fulfill credit requirements.

International (3 credits)

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BUINB-367 International Management

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: Take BUMGT-304

BUINB-485 International Marketing

(3 cr.)

Repeatable for Credit: No

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms.

Prerequisites: take BUMKG-330

ECON-480 International Economics

(3 cr.)

Repeatable for Credit: No

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics related to trade models, tariffs, exchange rates and balance of payments.

Prerequisite: take ECON-210

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Management (3 credits)

BUINB-367 International Management

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: Take BUMGT-304

BUMKG-436 Marketing Management

(3 cr.)

Repeatable for Credit: No

Comprehensive exploration and practical application of marketing activities used to create customer value and marketplace exchanges benefiting the organization and its stakeholders; planning and execution of conception, pricing, promotion, and distribution of ideas, goods, and/or services for an enterprise.

Prerequisites: take BUMKG-330 and BUACT-207

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-415 Inclusivity in Leadership

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

An examination of leadership dynamics for but not limited to women, people of color and other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations.

Prerequisites: take SOC-110 and either INMGT-400 or BUMGT-304

INMGT-430 Employee Involvement: Work Teams

(2 cr.)

Repeatable for Credit: No

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods.

Must be Senior level or higher

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Practicum (2-3 credits)

INMGT-314 Enterprise Resource Planning Practicum

(3 cr.)

Repeatable for Credit: No

Practice of the functions within an enterprise, through the Enterprise Resource Planning System. Systems, Applications, and Products (SAP) virtual enterprise platform used to demonstrate how the physical work flow, electronic information exchange and financial flow are integrated into an enterprise.

Prerequisites: take INMGT 200 or INMGT 210 or BUMIS 333 or ICT 305

INMGT-405 Resource Planning and Materials Management Practicum

(3 cr.)

Repeatable for Credit: No

Provides students with specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. This course focuses on the first two of the five required APICS exams that lead to certification as a

Certified in Production and Inventory Manager (CPIM).
Prerequisite: take INMGT-305

INMGT-420 Quality Assurance-Practicum

(3 cr.)

Repeatable for Credit: No

Application of principles and techniques learned in INMGT-320, as part of Professional Semester/ Manufacturing Laboratory.

Prerequisites: take INMGT-320 and INMGT-325

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Experiential Learning (2 credits)

This requirement must be related to your Professional Core, or with the approval of the Program Director, you may select an appropriate business selective.

BUMGT-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

BUMGT-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

BUMGT-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work

periods, each one building and expanding on the previous.
Department Consent

(2 credits required)

BUMGT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

BUMGT-498 Business Administration Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

Department Consent

(2 credits required)

Minor or Specialization (15-31 credits)

Upon completion of a minor, if your credit count does not reach 120, additional courses can be taken from the professional core, as well as economics (*ECON*) or other business-related courses (*BUACT*, *BUFIN*, *BUINB*, *BULGL*, *BUMGT*, *BUMIS*, *BUMKG*, *BURL*, *BUSCM*).

Requirements for the Supply Chain Management Concentration (80 credits)

Professional Preparation (8-9 credits)

Problem Solving (3 credits)

Select one course:

BUSCM-460 Supply Chain Management Design I Capstone

(4 cr.)

Repeatable for Credit: No

Synthesizing capstone experience focuses on planning, diagnosing and analyzing root causes of poor supply chain cost, service and

operational performance. Students analyze and diagnose supply chains for strategy, organization, process, technology, business models, best practices, and information and material flow.

Prerequisites: take BUSCM-338, INMGT 296 , INMGT-320, INMGT 350, INMGT-365, INMGT-405, BUSCM-437, and BUACT 312.

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

LOG-250 Critical Thinking

(3 cr.)

Repeatable for Credit: No

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies.

LOG-301 Introduction to Logical Thinking

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem-solving strategies based on induction and on categorical and propositional deduction.

Business Writing (3 credits)

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

Major Studies (71 credits)

Business Core (28 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

BUMGT-100 Introduction to Business Administration

(1 cr.)

Repeatable for Credit: No

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities.

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

INMGT-200 Production and Operations Management

(3 cr.)

Repeatable for Credit: No

A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.

Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-210 Service Operations Management

(3 cr.)

Repeatable for Credit: No

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

Professional Core (43-44 credits)

BUACT-335 Accounting for Management Decisions

(3 cr.)

Repeatable for Credit: No

Principles, techniques and use of accounting information to make management decisions in planning, operating and controlling activities of a business.

Prerequisite: take BUACT-207

BULGL-319 Business Law II

(3 cr.)

Repeatable for Credit: No

A continuation of Business Law I; includes property, secured transactions, bankruptcy, estates, commercial paper, partnerships, and corporations.

Prerequisites: take BULGL-318

BULGL-401 Legal Environment of Business

(3 cr.)

Repeatable for Credit: No

Legal influences and the changing relationship of government and industry: regulatory legislation, ethical implications, administrative agencies, national policies and social control.

BUMGT-498 Business Administration Field Experience

(1-2 cr.)

Repeatable for Credit: Yes

Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

Department Consent

(2 credits required)

BUMGT-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

BUMGT-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

BUMGT-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

BUMGT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials

management, and supply chain concepts.
Prerequisites: take BUMKG-330

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

BUSCM-461 Supply Chain Management Design II Capstone

(4 cr.)

Repeatable for Credit: No

Continuation of Supply Chain Design I focusing on design, model and recommended integrated supply chain solutions from the perspective of strategy, people, technology, business models, and best practices for managing the flow of goods and information across the supply chain.

Prerequisite: take BUSCM-460

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-415 Inclusivity in Leadership

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

An examination of leadership dynamics for but not limited to women, people of color and other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations.

Prerequisites: take SOC-110 and either INMGT-400 or BUMGT-304

INMGT-405 Resource Planning and Materials Management Practicum

(3 cr.)

Repeatable for Credit: No

Provides students with specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. This course focuses on the first two of the five required APICS exams that lead to certification as a Certified in Production and Inventory Manager (CPIM).

Prerequisite: take INMGT-305

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BUINB-367 International Management

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: Take BUMGT-304

BUINB-485 International Marketing

(3 cr.)

Repeatable for Credit: No

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms.

Prerequisites: take BUMKG-330

ECON-480 International Economics

(3 cr.)

Repeatable for Credit: No

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics related to trade models, tariffs, exchange rates and balance of payments.

Prerequisite: take ECON-210

Career, Technical Education and Training, B.S.

Go to [program website](#)

Introduction

The B.S. in Career, Technical Education and Training prepares teachers for post-high school settings such as junior colleges, public and private technical colleges, and industrial training programs.

A student must obtain a minimum of 4,000 hours of appropriate work experience for provisional certification to teach career, technical and adult education courses in Wisconsin technical colleges.

Students must apply for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.75.

Articulation Agreement There is an approved articulation agreement for this program with all of the Wisconsin Technical Colleges. The articulation agreement covers all Associate of Applied Art and Associate of Applied Science programs.

General Requirements

Bachelor of Science Degree

Total for graduation	120-121 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved Cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Technical (47 credits)

Because each student brings different qualifications as a result of prior training and experience, the student, with the assistance of the program director, will define all 47 technical credits in terms of student and job competency needs.

Core (19 credits)

Minimum grade of "C" required in all professional component courses.

CTE-302 Principles of Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Importance of career and technical education (workforce education) to American society and the individual. Actively apply principles into practice. Formulate a philosophy of workforce education based on personally held principles and demonstrated practices.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

CTE-360 Coordination of Work-based Learning (WBL) Programs

(3 cr.)

Repeatable for Credit: No

Philosophy, planning, initiation, organization, coordination, evaluation, and teaching techniques of Cooperative Career and Technical Education (C-CTE) programs. Special emphasis on roles, responsibilities and duties of the cooperative teacher-coordinator.

CTE-405 Methods of Teaching Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching career and technical education.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

No prerequisite for CTET students who enroll for 2 credits.

CTE-438 Course Construction in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Focus on curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates' CTE program area. Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

CTE-440 Instructional Evaluation in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to instructional evaluation for career and technical educators. Prepares educators to design and implement performance-based assessment in diverse formats and settings that evidence student learning.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

CTE-460 Data Responsive Planning, Teaching and Assessment

(3 cr.)

Repeatable for Credit: No

Teaching, planning and assessment of student learning through curriculum-based evidence collection and analysis in an effort to monitor and revise lessons, strategies, assessments (formative and summative), courses and programs.

EDUC-336 Multiculturalism: Issues & Perspectives

(2 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

An intensive examination of multiculturalism in U.S. and global schools and communities. Examination of the educational and cultural needs of diverse social and cultural groups. Discussion of hegemony, and cultural, race, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Strategies for educational and socioeconomic equity.

EDUC-403 Educational Psychology of the Adult Learner

(2 cr.)

Repeatable for Credit: No

Psychological principles and theoretical framework guiding the educational process for adult learners. Special focus on planning and evaluating instruction while utilizing active learning to build strong learning communities.

SCOUN-301 Introduction to Counseling for Partners in Education

(2 cr.)

Repeatable for Credit: No

Partnership between educators and counseling professionals. History, needs and trends, classroom management/theory overview, professional associations and standards, legal and ethical issues, and characteristics and behaviors that influence helping processes.

Training and Human Resource Development (11 credits)

CTE-334 Performance Analysis

(3 cr.)

Repeatable for Credit: No

Analysis techniques utilized in curriculum development. Emphasis on task analysis and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising career and technical education curriculum or job training programs.

CTE-370 Instructional Technology - Education and Training

(2 cr.)

Repeatable for Credit: No

Technological applications to education, training and instruction. Emphasis on examining, developing and evaluating various technologies and their appropriateness for the curriculum and training applications.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Field Experience (1-4 credits)

CTE-408 Student Teaching in Career and Technical Education

(1-4 cr.)

Repeatable for Credit: Yes

Application of teaching and learning knowledge and skills to a post-secondary education or training institution setting.
Department Consent

TRHRD-389 Training Internship

(1-8 cr.)

Repeatable for Credit: Yes

Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs.

Department Consent

TRHRD-360

Note(s):

** Course content is mandated for Wisconsin Technical College System certification.*

Computer and Electrical Engineering, B.S.

Go to [program website](#)

Computer Engineering, B.S. 4-year sequences:

- Computer Engineering Concentration
- Electrical Engineering Concentration

Introduction

The Computer and Electrical Engineering program at UW-Stout is ideally suited to meet the needs of regional and national industries by providing computer engineers with a strong background in both electrical engineering and computer science. Graduates of this program are equipped to work with both hardware and software aspects of computer systems.

Demand for computer engineers is strong, as computer systems of all sizes - from computer chips in cellular telephones to computer-controlled equipment in large manufacturing environments - are ubiquitous in present-day society.

UW-Stout's Computer and Electrical Engineering program is a calculus-based program which progresses from solid foundations in mathematics and science through analysis and design. The program includes a strong emphasis on laboratory activities and student engineering design projects, with a particular focus on the design of hardware and software for engineering systems that utilize embedded digital processors such as microprocessors, microcontrollers, digital signal processors and personal computers.

General Requirements Bachelor of Science Degree

Total for graduation	127-128
General Education	40
Major Studies	87-88

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (13 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

**ETECH-100 can alternatively be used to satisfy Social Responsibility and Ethical reasoning*

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Computer Engineering Concentration Requirements

Major Studies (88 credits)

Mathematics and Basic Sciences (20 credits)

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

MATH-270 Discrete Mathematics

(3 cr.)

Repeatable for Credit: No

Exploration of sets, relations, functions, formal logic, proof techniques, counting techniques, graphs, recurrence relations, and generating functions. Applications in mathematics and computer science.

Prerequisites: take either MATH-153 or MATH-156; not for students who took MATH-180

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.

Prerequisite or co-requisite: MATH-154 or concurrent enrollment

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

Engineering Core (10 credits)

CEE-205 Circuit Analysis and Design

(4 cr.)

Repeatable for Credit: No

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real

resistors/capacitors/inductors, steady state/transient behavior of circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory.

Prerequisite: take MATH-154 or MATH-157

CEE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CEE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(1 credit required)

ENGR-275 Thermodynamics & Heat Transfer

(3 cr.)

Repeatable for Credit: No

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisite: take PHYS-291 and MATH-250 (which may be taken concurrently)

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

(2 credits required)

Electrical and Computer Engineering (58 credits)

CEE-215 Electronics

(4 cr.)

Repeatable for Credit: No

Introduction to the physics/modeling of semiconductor devices such as diodes and transistors. Biasing, small/large signal circuit behavior, temperature dependence. Differential/multistage/power amplifiers. Time and frequency response of devices and circuits,

including operational amplifiers. Discussion of integrated circuit fabrication technology.
Prerequisite: Take CEE-205

CEE-225 Digital Logic

(3 cr.)

Repeatable for Credit: No

Analysis and design of combinational and sequential logic circuits. Boolean algebra, number systems and logic gates. Realization of Boolean Functions. Synchronous and asynchronous sequential logic: counters and registers. Finite state machines, state transitions and state equivalence. Logic circuit simulation. Discrete gates and array logic laboratory experiments.

Prerequisite: take CEE-205 (or concurrent registration)

CEE-235 Signals and Systems

(3 cr.)

Repeatable for Credit: No

Continuous-time and discrete-time signals and systems; representation and analysis of linear, time-invariant systems; differential and difference equations; convolution; Fourier, Laplace and Z-transforms; Fourier series; time- and frequency-domain analysis; sampling theorem; introduction to advanced signal processing topics.

Prerequisites: take CEE-205 and MATH-250

CEE-325 Digital System Design

(3 cr.)

Repeatable for Credit: No

Analysis of combinational and sequential logic and state machine designs. Circuit realization utilizing CADD tools on field programmable gate array devices. Behavioral and structural modeling of digital system designs through implementation of computer system components, and memory using hardware description language.

Prerequisites: Take CEE-205 and CEE-225

CEE-335 Automatic Control Systems

(4 cr.)

Repeatable for Credit: No

Classical methods of analysis and design for continuous-time control systems with Laplace transform techniques for solving differential equations, modeling of dynamic systems in time and frequency domains, root-locus and stability analysis. Introduction to controller design and programming for embedded-servo control systems and PC-based data acquisition in controls.

Prerequisites: take CEE-235 and CS-244

CEE-345 Microprocessor System Design

(3 cr.)

Repeatable for Credit: No

Study of the internal organization of microprocessors, instruction sets, timers and interrupts, and serial and parallel ports programming using Assembly and C languages. The design and interfacing of peripherals for a selected microprocessor and use of debugger hardware including an in-circuit serial programmer unit.

Prerequisites: take CEE-325 and CS 244

CEE-355 Applied Electromagnetics

(4 cr.)

Repeatable for Credit: No

Engineering applications of electromagnetic fields applied to design of electronic systems that work properly in the presence of electronic noise and do not cause electronic noise to other systems. Concepts including crosstalk, shielding, filtering, grounding, power distribution and electrostatic discharge are addressed. Use of measurement and computer aided analysis tools.

Prerequisites: take CEE-205 and PHYS-282

CEE-405 Capstone I: Computer Engineering Design

(3 cr.)

Repeatable for Credit: No

First of two-semester sequence in capstone design. Creation of a conceptual design to solve a hardware and software problem that requires research, problem solving, teamwork, communication skills, project management, documentation, simulation, experimentation, and other skills acquired during computer engineering undergraduate study.

Prerequisites: take CEE-325 and CEE-345

CEE-410 Capstone II: Computer Engineering Design

(3 cr.)

Repeatable for Credit: No

Continuation of CEE-405. Implementation, prototyping, and testing of the conceptual design developed in CEE-405; efficient management of time and resources for the successful completion of the project. Status reports, a project report, and a final presentation are required.

Prerequisite: take CEE-405

CEE-425 Data Communications and Computer Networks

(3 cr.)

Repeatable for Credit: No

Design and implementation of data communications and computer network systems. Open systems interconnect models vs. internet models. Transport control protocol/internet protocol algorithms, routing techniques, network security, network management, traffic characterization using discrete-time simulation tools by applying statistical methods, hardware development and implementation of network enabled devices.

Prerequisites: take CEE-235 and CS 441 (or concurrent registration)

CEE-445 Embedded System Design

(3 cr.)

Repeatable for Credit: No

Structured approach to the development and design of microprocessor, microcontroller, and mixed-signal embedded systems.

Microprocessor types, memory structures, interrupt control, external interfacing, embedded sensing, and software including assemblers and higher level language support will be emphasized. Laboratory experiments for the design and implementation of an embedded system project.

Prerequisite: take CEE-345

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

CS-441 Computer Architecture

(4 cr.)

Repeatable for Credit: No

Fundamentals in modern computer technology, focusing on hardware. Design, operation, and interconnections of the major computer system components consisting of the CPU, memory, and I/O modules.

Prerequisite: take CS-244

CS-442 Systems Programming

(3 cr.)

Repeatable for Credit: No

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software.

Prerequisite: take CS 441

CEE-435 Digital Signal Processing

(3 cr.)

Repeatable for Credit: No

Fourier analysis of continuous-time and discrete-time signals and systems; sampling theory, aliasing and signal reconstruction; analysis of sampled signals; discrete and Fast Fourier transforms; ztransform; discrete convolution; design of digital finite impulse response (FIR) and infinite impulse response (IIR) filters; practical applications with simulation programs and hardware systems.

Prerequisite: take CEE-235

CEE-455 Fundamentals of Wireless Communications

(3 cr.)

Repeatable for Credit: No

Design and analysis of wireless communication systems, frequency allocations, network architectures. Amplitude, frequency and phase modulation. Time and frequency multiplexing. Information content, channel bandwidth, modulation schemes. Calculation of path loss, fading, scattering and shadowing. Signal encoding and error control. Broadband, spread spectrum and multiple access systems.

Prerequisites: take CEE-235 and CEE-355 (or concurrent registration)

Electrical Engineering Concentration Requirements

Major Studies (87 credits)

Mathematics and Basic Sciences (20 credits)

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher- order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

MATH-270 Discrete Mathematics

(3 cr.)

Repeatable for Credit: No

Exploration of sets, relations, functions, formal logic, proof techniques, counting techniques, graphs, recurrence relations, and generating functions. Applications in mathematics and computer science.

Prerequisites: take either MATH-153 or MATH-156; not for students who took MATH-180

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.

Prerequisite or co-requisite: MATH-154 or concurrent enrollment

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

Engineering Core (7 credits)

CEE-205 Circuit Analysis and Design

(4 cr.)

Repeatable for Credit: No

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real resistors/capacitors/inductors, steady state/transient behavior of circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory.

Prerequisite: take MATH-154 or MATH-157

CEE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

CEE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(1 credit required)

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

(2 credits required)

Electrical and Computer Engineering_(60 credits)

CEE-215 Electronics

(4 cr.)

Repeatable for Credit: No

Introduction to the physics/modeling of semiconductor devices such as diodes and transistors. Biasing, small/large signal circuit behavior, temperature dependence. Differential/multistage/power amplifiers. Time and frequency response of devices and circuits, including operational amplifiers. Discussion of integrated circuit fabrication technology.

Prerequisite: Take CEE-205

CEE-225 Digital Logic

(3 cr.)

Repeatable for Credit: No

Analysis and design of combinational and sequential logic circuits. Boolean algebra, number systems and logic gates. Realization of Boolean Functions. Synchronous and asynchronous sequential logic: counters and registers. Finite state machines, state transitions and state equivalence. Logic circuit simulation. Discrete gates and array logic laboratory experiments.

Prerequisite: take CEE-205 (or concurrent registration)

CEE-235 Signals and Systems

(3 cr.)

Repeatable for Credit: No

Continuous-time and discrete-time signals and systems; representation and analysis of linear, time-invariant systems; differential and difference equations; convolution; Fourier, Laplace and Z-transforms; Fourier series; time- and frequency-domain analysis; sampling theorem; introduction to advanced signal processing topics.

Prerequisites: take CEE-205 and MATH-250

CEE-315 Power Electronics and Renewable Energy Systems

(4 cr.)

Repeatable for Credit: No

Switching functions and methods of control such as pulse-width modulation, phase control, and phase modulation. DC-DC, AC-DC, DC-AC, and AC-AC power converters. Power components, including magnetic components and power semiconductor switching devices. Design and implementation of power electronic devices for off-grid and grid-connected renewable energy systems. Power quality issues in renewable energy systems.

Prerequisites: take CEE 215 or ENGR 290

CEE-325 Digital System Design

(3 cr.)

Repeatable for Credit: No

Analysis of combinational and sequential logic and state machine designs. Circuit realization utilizing CADD tools on field programmable gate array devices. Behavioral and structural modeling of digital system designs through implementation of computer system components, and memory using hardware description language.

Prerequisites: Take CEE-205 and CEE-225

CEE-335 Automatic Control Systems

(4 cr.)

Repeatable for Credit: No

Classical methods of analysis and design for continuous-time control systems with Laplace transform techniques for solving differential equations, modeling of dynamic systems in time and frequency domains, root-locus and stability analysis. Introduction to controller design and programming for embedded-servo control systems and PC-based data acquisition in controls.

Prerequisites: take CEE-235 and CS-244

CEE-345 Microprocessor System Design

(3 cr.)

Repeatable for Credit: No

Study of the internal organization of microprocessors, instruction sets, timers and interrupts, and serial and parallel ports programming using Assembly and C languages. The design and interfacing of peripherals for a selected microprocessor and use of debugger hardware including an in-circuit serial programmer unit.

Prerequisites: take CEE-325 and CS 244

CEE-355 Applied Electromagnetics

(4 cr.)

Repeatable for Credit: No

Engineering applications of electromagnetic fields applied to design of electronic systems that work properly in the presence of electronic noise and do not cause electronic noise to other systems. Concepts including crosstalk, shielding, filtering, grounding, power distribution and electrostatic discharge are addressed. Use of measurement and computer aided analysis tools.

Prerequisites: take CEE-205 and PHYS-282

CEE-361 Electric Machines and Control

(3 cr.)

Repeatable for Credit: No

Transformers and magnetic circuits. Theory of electromechanical conversion. Structures and operating principles of different types of DC and AC electric motors and generators. Control aspects of these machines with modern electric drives. Analysis and design of these systems using analytical models and simulation software.

Prerequisites: take CEE 235

CEE-405 Capstone I: Computer Engineering Design

(3 cr.)

Repeatable for Credit: No

First of two-semester sequence in capstone design. Creation of a conceptual design to solve a hardware and software problem that requires research, problem solving, teamwork, communication skills, project management, documentation, simulation, experimentation, and other skills acquired during computer engineering undergraduate study.

Prerequisites: take CEE-325 and CEE-345

CEE-410 Capstone II: Computer Engineering Design

(3 cr.)

Repeatable for Credit: No

Continuation of CEE-405. Implementation, prototyping, and testing of the conceptual design developed in CEE-405; efficient management of time and resources for the successful completion of the project. Status reports, a project report, and a final presentation are required.

Prerequisite: take CEE-405

CEE-445 Embedded System Design

(3 cr.)

Repeatable for Credit: No

Structured approach to the development and design of microprocessor, microcontroller, and mixed-signal embedded systems. Microprocessor types, memory structures, interrupt control, external interfacing, embedded sensing, and software including assemblers and higher level language support will be emphasized. Laboratory experiments for the design and implementation of an embedded system project.

Prerequisite: take CEE-345

CEE-462 Sensors and Actuators

(3 cr.)

Repeatable for Credit: No

Theory, design, and application of sensors in the industry, including velocity, acceleration, force and torque, temperature, flow, pressure, liquid level, capacitance, inductance and resistance, vision and pattern recognition. Problems in data acquisition and transmission; instrumentation circuits. Analysis and design of servo systems. Translational and rotational positioning systems.

Prerequisites: take CEE 215 and CEE 335

ENGR-463 Robotics Design and Analysis

(3 cr.)

Repeatable for Credit: No

Robotic system control and design; robot manipulators and classification; dynamics; kinematics; degrees of freedom; trajectory planning; vision systems; robot operating system (ROS) and programming; intelligent systems; human-robot interactions; industrial robots selection and control; and mechatronic systems.

Prerequisites: take ENGR 292, and CEE 345 or ENGR 363

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

ENGR-415 Machine Vision and Robotics

(2 cr.)

Repeatable for Credit: No

Design of machine vision and industrial robotic applications, including cost justification.

Prerequisites: take INMGT-300 and ENGR 292

Computer Networking and Information Technology, B.S.

Go to [program website](#)

Computer Networking and Information Technology, B.S.: 4-year sequence

Introduction

The CNIT program follows UW-Stout's unique hands-on, active learning approach. As a CNIT student, you will gain real-world experience as you design, implement, and administer local and wide-area networks. You will take courses in emerging fields such as virtualization, cloud computing, network programmability & automation, unified communication, information security, IP Telephony, and wireless networking.

The CNIT program focuses on:

Cybersecurity and Cyber defense
Enterprise Network Infrastructure Setup, Maintenance and Troubleshooting
Server Installation, Configuration and Administration
Network System Design
Ethical Hacking and Network Security
Linux Systems and Network Administration
IP Telephony (VoIP)
Wireless System
Virtualization and Cloud Computing
Unified Communication and Collaboration
Network Programmability & Automation

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal,

professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (11-12 credits)

At least one math or statistics course and a natural science course with a lab are required.

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Course Selective-1 :

Choose a selective to fulfill credit requirements.

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning course list.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selective (1-2 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Management (18 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBok). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers.

Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-475 Advanced Project Management

(3 cr.)

Repeatable for Credit: No

Advanced planning, control, and leadership of technical projects and programs. Topics covered include: project and program justification, project management maturity and methods, multiple project or portfolio management, project management in

multinational cultures, virtual project teams, requirements definition, and outsourcing.
Prerequisites: take INMGT-365 or AEC-471. Senior standing.

Technical (51 credits)

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

CNIT-301 Linux Systems & Network Administration

(3 cr.)

Repeatable for Credit: No

A technical overview of the Linux operating system, including: hands-on experience with commands, files, services and tools. Topics include basic Linux commands, files and directories, text editing and scripting; installation and maintenance of Linux servers in the corporate world; installation and configuration of services and applications of Linux servers.

Prerequisite: take either ITM/CNIT-133 OR CS-144

CNIT-330 IP Telephony Design & Implementation

(3 cr.)

Repeatable for Credit: No

Internet protocol (IP) telephony components and protocols examination; converged network interpretation; analog and digital voice interface configuration; quality of service configuration; single and multisite IP telephony deployment; IP telephony features implementation.

Prerequisites: take CNIT-441

CNIT-361 Workstation And Server

(3 cr.)

Repeatable for Credit: No

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisite: take CNIT 133

CNIT-371 Cloud Computing Design, Implementation, & Security

(3 cr.)

Repeatable for Credit: No

Technical overview of cloud computing, including: hands-on experience with designing and implementing public and private cloud. Public and private cloud architecture principles and its components, deploying and implementing highly available and fault tolerant enterprise public and private cloud-based solutions.

Prerequisite(s): take CNIT 133 and CNIT 301

CNIT-381 Network Programmability and Automation

(3 cr.)

Repeatable for Credit: No

Concepts and foundations of network automation and programmability tools and techniques used to implement, manage, secure, and maintain networks. Designing, implementing and managing networks with open source standards and industry-standard languages and platforms including; Python, JSON, Linux, Cisco ACI, and APIC-EM.

Prerequisite(s): take CS 144, CNIT 134 and CNIT 301

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

CNIT-391 Wireless Systems

(3 cr.)

Repeatable for Credit: No

Wireless networking combining Radio Frequency (RF) and Local Area Networking (LAN) technology fundamentals. Basic concepts and building blocks or the convergence between RF and networking technologies. Technologies and tasks vital to installing, managing, and supporting wireless networks.

Prerequisite: take CNIT-134

CNIT-441 Scalable Internetworks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT-134

CNIT-443 Multi-Layer Switched Networks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Build multi-layer switched networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT 134

CNIT-444 Internetwork Troubleshooting

(3 cr.)

Repeatable for Credit: No

Specialization course for the Cisco CCNP professional certification. Students will learn to troubleshoot internetworks. Students are required to pass the associated Cisco certification examination.

Prerequisites: Take CNIT-441 and CNIT-443

CNIT-450 Enterprise Solutions and Unified Communications

(3 cr.)

Repeatable for Credit: No

Enterprise-level network utilizing the technologies and methods that are current industry best practices. Provide enterprise network solutions and unified communications to an organization while maintaining quality of service. New and emerging network technologies for an enterprise network.

Prerequisites: take CNIT-330, CNIT-363, and CNIT-444

CNIT-484 Advanced Network Security and Auditing

(3 cr.)

Repeatable for Credit: No

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: take CNIT 301 , CNIT-383, and either CNIT 361 or CS 480

CNIT-490 Information Technology Management Capstone

(3 cr.)

Repeatable for Credit: No

Work with an outside organization in a team environment utilizing concepts of design, brainstorming, problem solving, team work, creativity, evaluation, and present findings in oral and written formats.

Prerequisite: take CNIT 444 and CNIT 484

Electives (11 credits)

Group 1 (6 credits)

CNIT-300 Emerging Information Technology Workshop

(3 cr.)

Repeatable for Credit: Yes

Examination of information technologies and computer networking emerging trends, alongside complimentary and disruptive developments. Strategies impacting or impeding adoption. Activities to test these strategies. Identification of trend strengths and vulnerabilities. Presentation of findings.

Prerequisite: take CNIT 134

CNIT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

Group 2 (5 credits)

Electives may be chosen from any courses with the following prefixes: BUXX, CNIT, CS, ELEC, INMG, ICT and TRHRD. Minors and Specializations may require additional credits beyond program maximum.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Computer Science, B.S.

Go to [program website](#)

Computer Science, B.S. 4-year sequences:

- [Game Design and Development](#)
- Interdisciplinary
- [Mobile Applications](#)
- Cyber Security and Secure Software Development

Introduction

Developing computer software consistently tops the best jobs in the U.S. list. The Computer Science program at UW-Stout focuses on computer software and media applications. This program stays current with today's technologies, devices, and applications. Concentrations in this major focus on specific areas such as cybersecurity, games or mobile applications or you can create your own area of focus by adding an interdisciplinary minor or second major.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

*CS, MATH, MSCS and GDD courses require a grade of C or better. Each course is labeled with an *.*

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (13 credits)

CS-144 and a calculus class are required for all concentrations. ABET accreditation requires all concentrations to have 6 credits of natural science with lab. PHYS-281 is required for the Game Design and Development concentration as well as additional physics in the required concentration courses.

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

MATH-151 Calculus with Precalculus B

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Second course in a two-course sequence. Properties, identities, and derivatives of exponential, logarithmic, and trigonometric functions. Affine transformations and graphing, linear systems of equations, and geometric applications of trigonometry. Integration and the Fundamental Theorem of Calculus.

Prerequisite: Completion of MATH-150

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-156 Calculus and Analytic Geometry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Equivalent to MATH 153 and MATH 154.

Prerequisite: Math Placement Level 4 or completion of MATH-121.

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

(Game Design and Development concentration)

Course Selective-1 :

Choose a selective to fulfill credit requirements.

**Students in the Mobile Applications, Interdisciplinary, and Cyber Security and Secure Software Development concentration must take 6 credits of approved Natural Science courses*

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses. ICT-103 is required for the cyber Security and

Secure software Development concentration to meet the CAE-CDE designation requirements.

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

(Cyber Security and Secure Software Development concentration)

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Computer Ethics is required by ABET accreditation.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

Major Studies (80 credits)

Computer Science (34 credits)

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

CS-254 Algorithm Design and Analysis

(3 cr.)

Repeatable for Credit: No

Introduction to the design and analysis of algorithms. Asymptotic analysis of time complexity. Proofs of correctness. Dynamic programming, greedy algorithms, amortized analysis, and string operations. Concept of NP-completeness.

Prerequisite: take CS-244 & either MATH 154 or MATH 157

CS-290 Professional Seminar

(1 cr.)

Repeatable for Credit: No

Preparation for the computer science profession. Assess knowledge base, identify areas of strengths and weaknesses, define plan for further development. Build a professional portfolio and resume, and review interviewing skills. Explore career paths, company research, negotiations and weighing job offers. Opportunities for attendance at industry presentations and company visits.

Prerequisite: take CS-244 or CS-248

CS-324 Database Systems Manipulation and Design

(3 cr.)

Repeatable for Credit: No

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases.

Prerequisite: take CS-244

CS-358 Software Engineering Principles

(3 cr.)

Repeatable for Credit: No

Study of the software development life cycle, software engineering practices including waterfall and agile, requirements engineering,

user-centric design practices, program testing, documentation, and team management and organization. Students will work on a software project to develop requirements and design a prototype.

Prerequisite: take CS-244 & either CS 248 or CS 324

CS-441 Computer Architecture

(4 cr.)

Repeatable for Credit: No

Fundamentals in modern computer technology, focusing on hardware. Design, operation, and interconnections of the major computer system components consisting of the CPU, memory, and I/O modules.

Prerequisite: take CS-244

CS-442 Systems Programming

(3 cr.)

Repeatable for Credit: No

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software.

Prerequisite: take CS 441

CS-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(3 credits required)

CS-343 Mathematical Foundations of Computer Graphics

(3 cr.)

Repeatable for Credit: No

Fundamental hardware, software, mathematics, data structures and algorithms for computer graphics.

Prerequisites: take CS-244 and MATH 275, and take either MATH-158 or MATH-154 or PHYS-281

(Game Design and Development concentration)

- CS-3XX * or higher

Mathematics (13 credits)

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-270 Discrete Mathematics

(3 cr.)

Repeatable for Credit: No

Exploration of sets, relations, functions, formal logic, proof techniques, counting techniques, graphs, recurrence relations, and generating functions. Applications in mathematics and computer science.

Prerequisites: take either MATH-153 or MATH-156; not for students who took MATH-180

MATH-275 Linear Algebra

(3 cr.)

Repeatable for Credit: No

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-158 Calculus III

(3 cr.)

Repeatable for Credit: No

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisite: take MATH-154 or MATH-157

- MSCS-2XX * or higher, or
- STAT-3XX or higher

Concentrations (32 credits)

Select one concentration.

Game Design and Development (29 credits)

ARTH-340 History of Interactive Media

(3 cr.)

Repeatable for Credit: No

Survey of historical developments leading to, and in the design of, video games, the Internet, and related media. Must be in a BFA major, Art Ed or GDD major

CS-326 Programming in Game Engines

(3 cr.)

Repeatable for Credit: No

Introduction to programming in game engines with focus on programming game objects, physics, programmable effect systems and user interface components to create interactive programs.

Prerequisite: take CS-244

GDD-100 Introduction to Game Design

(4 cr.)

Repeatable for Credit: No

Principles of video and computer game design and development. Students design and develop games, analyze a popular game, and learn about various aspects of the game industry. Game design, story development, visual art production and programming.

GDD-200 Video Game Development

(4 cr.)

Repeatable for Credit: No

The course introduces principles of video game development. Students design and develop a video game, implementing a development pipeline using visual art production, programming, and game development management techniques and tools.

Prerequisite(s): take GDD 100 and either CS 145 or DES 220

GDD-325 Two Dimensional Game Design and Development

(4 cr.)

Repeatable for Credit: No

Design and develop two-dimensional games from concept to completion in teams. Production environment will be set up to reflect the approach used in the game development industry.

Prerequisites: take GDD 200 and either CS-244 or DES-220

GDD-450 Game Design and Development Capstone I

(4 cr.)

Repeatable for Credit: No

Design and development of 3D games from concept to prototype in teams, modeling the approach used in the game development industry. The first of a two-semester sequence to be followed by GDD-451.

Prerequisites: Take GDD-325 and one of the following:

1) *completion of both CS 326 and CS 358 ; or*

2) *completion of DES 350*

GDD-451 Game Design and Development Capstone II

(4 cr.)

Repeatable for Credit: No

Design and development of 3D games from concept to prototype in teams, modeling the approach used in the game development industry. Second of two-semester sequence; to be preceded by GDD-450.

Prerequisite: take GDD-450

PHYS-360 Physics Modeling for Game Programmers

(3 cr.)

Repeatable for Credit: No

Use of mathematics and physics to model the physical world for use in games and other computer simulations. Topics include motion, gravity, collisions, vectors, matrices, differential equations, dynamics, hydrostatics, hydrodynamics, and elastic systems to model common game objects.

Prerequisites: take CS-244, MATH-275 and PHYS-281, and take either MATH-154 or MATH-157

Selective (3 credits)

Choose three credits from:

- CS-XXX * *Any upper level CS course (not listed above) or*
- GDD-XXX * *Any upper level GDD course (not listed above) or*
- MATH-XXX * *Any upper level MATH course (158 or higher, not listed above) or*
- MSCS-XXX * *Any upper level MSCS course (not listed above)*

Interdisciplinary (32 credits**)

Practicum must be taken for 8 credits minimum

CS-458 Software Engineering Practicum

(4 cr.)

Repeatable for Credit: Yes

Ongoing, repeatable course with hands-on experience in software engineering. Teams will work on projects with customers to specify, design, implement, and test a significant software system using modern software engineering approaches to team management, communication, and coordination. Modern tools for communication, feature and requirement management, and version control will be used. Modern agile and incremental techniques will be employed.

Prerequisite: take CS-358 and Junior Standing

****In addition, a student must complete a second minor (not computer science minor or mathematics minor since already included in this major), second major, or coursework approved by the program director to finish out the remaining 24 credits.**

Mobile Applications (17 credits)

Practicum must be taken for 8 credits minimum

CS-364 Mobile Development in Android

(3 cr.)

Repeatable for Credit: No

Design and implementation of software applications for mobile devices running the Android platform. Fundamental programming principles, software architecture and user experience considerations underlying handheld software applications and their development environments.

Prerequisite: take CS 324

CS-404 Advanced Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Modern and emerging web programming standards, server configurations, and libraries. Web app creation and persistent data storage. Survey of modern tools and technologies to support web development.

Prerequisites: take CS 248 and take or be concurrently enrolled in CS 324

CS-458 Software Engineering Practicum

(4 cr.)

Repeatable for Credit: Yes

Ongoing, repeatable course with hands-on experience in software engineering. Teams will work on projects with customers to specify, design, implement, and test a significant software system using modern software engineering approaches to team management, communication, and coordination. Modern tools for communication, feature and requirement management, and version control will be used. Modern agile and incremental techniques will be employed.

Prerequisite: take CS-358 and Junior Standing

CS-496 Human-Computer Interaction

(3 cr.)

Repeatable for Credit: No

Human-computer interaction (HCI) and interface design. Survey of HCI theories and frameworks. Creation and evaluation of a mockup interface for a specific device context (web, mobile device, desktop program, etc.).

Prerequisite: take CS 244 or CS 248

Selectives (15 credits)

Choose a total of 15 credits from any combination of:

- CS-3XX * or higher or
- MSCS-2XX * or higher or
- MATH-XXX * Any upper level MATH course (158 or higher, not listed above)

Cyber Security and Secure Software Development (32 credits)

**Practicum must be taken for 8 credits minimum*

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

CNIT-301 Linux Systems & Network Administration

(3 cr.)

Repeatable for Credit: No

A technical overview of the Linux operating system, including: hands-on experience with commands, files, services and tools. Topics include basic Linux commands, files and directories, text editing and scripting; installation and maintenance of Linux servers in the corporate world; installation and configuration of services and applications of Linux servers.

Prerequisite: take either ITM/CNIT-133 OR CS-144

CNIT-361 Workstation And Server

(3 cr.)

Repeatable for Credit: No

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisite: take CNIT 133

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

CNIT-484 Advanced Network Security and Auditing

(3 cr.)

Repeatable for Credit: No

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: take CNIT 301 , CNIT-383, and either CNIT 361 or CS 480

CS-458 Software Engineering Practicum

(4 cr.)

Repeatable for Credit: Yes

Ongoing, repeatable course with hands-on experience in software engineering. Teams will work on projects with customers to specify, design, implement, and test a significant software system using modern software engineering approaches to team management, communication, and coordination. Modern tools for communication, feature and requirement management, and version control will be used. Modern agile and incremental techniques will be employed.

Prerequisite: take CS-358 and Junior Standing

CS-480 Introduction to Computer Security

(3 cr.)

Repeatable for Credit: No

Computer security problems and challenges, relationship between policy and security, cryptography, implementation of requirements imposed by policies, use of standards to ensure that the system will meet its goals, system vulnerabilities analysis and detection, intrusion detection, application of desired policy and procedures to support the policy.

Prerequisite: take CS 244

Free Electives (0-2 credits)

As needed to meet 120 credit total.

Construction, B.S.

Go to [program website](#)

Construction, B.S.: 4-year sequence

Introduction

The Construction program is designed to prepare individuals for a variety of responsible positions in the field of construction.

Broad objectives of the program include developing fundamental knowledge of science, engineering, business, management, architecture and construction principles; applying scientific, technological and management principles to the solution of construction problems; and integrating diverse scientific and technical areas as they impact on the construction field.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	41 credits
Major Studies	79 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (41 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (11 credits)

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics

(i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

ECON-201 General Economics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to basic economic principles and methods. Microeconomics deals with choices of consumers and firms, market structure, price theories, and taxes. The course covers macroeconomics issues such as national income (GDP), economic growth and development, employment, inflation, money and Federal Reserve, interest rate, investment, the exchange rate, and International Trade.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

POLS-210 American Government

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (79 credits)

Business and Management (15 credits)

BUACT-201 Financial-Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Managerial accounting concepts will be covered in the use of the annual report, with emphasis on financial statement analysis including the cash flow statement and budgets. *BS Engineering Technology, Industrial Management, Applied Science and Graphic Communication Management students only.*

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

(3 credits required)

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers.

Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

Prerequisite Courses (25 credits)

Prerequisite courses require a grade of C or better. Each course is labeled with an *.

AEC-120 Construction Industry Orientation and Documents

(3 cr.)

Repeatable for Credit: No

An introduction to the field of construction to broaden student understanding and develop appreciation of the entire scope of construction. Emphasis on fundamental understanding of construction documents including drawings and specifications. Relationship between drawings and specifications to other contractual documents will be explored.

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

AEC-237 Architectural Technology

(3 cr.)

Repeatable for Credit: No

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems.

Prerequisites: take AEC-131 and earn a C or better

AEC-370 Construction Estimating I

(3 cr.)

Repeatable for Credit: No

Estimating and analyzing material, labor, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid.

Prerequisites: Take AEC-237 and earn a C or better

AEC-458 Structural Systems--Wood and Steel

(3 cr.)

Repeatable for Credit: No

Analysis, selection, and delineation of wood and steel structural components and systems in buildings.

Prerequisites: Take PHYS-321 and earn a C or better

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

PHYS-321 Statics and Strength of Materials

(4 cr.)

Repeatable for Credit: No

Static equilibrium conditions applied to trusses and frames. Application of friction. Relationship between stress and strain which includes thermal stresses. Characterizations of beams including corresponding deflections and internal stresses. Shear and bending moment diagrams. Combined stresses and strength of beam connections.

Prerequisite: take PHYS-241 or PHYS-281

Architecture, Engineering and Construction (39 credits)

AEC-270 Heavy Construction Methods and Equipment

(3 cr.)

Repeatable for Credit: No

Introduction to commercial and industrial building systems: equipment, site preparations, footings, foundations, formwork, concrete, steel, and wood timber techniques.

Prerequisites: Take AEC-171 and earn a C or better

AEC-273 Concrete And Masonry Technology

(3 cr.)

Repeatable for Credit: No

Fundamental principles of cement and concrete (ingredients, mixing, placement, finishing, curing, properties, and applications); clay and concrete units (ingredients, properties, manufacture, placement, and application).

Prerequisites: AEC-171 with a grade of C or better

AEC-352 Building Mechanical Systems

(3 cr.)

Repeatable for Credit: No

Fundamental theory and application of heating, ventilation, air conditioning, plumbing, and fire suppression systems for buildings. Emphasis on system integration and sustainable topics as related to design, construction and management of mechanical construction scope of work.

Prerequisites: Take AEC-237 and earn a C or better

AEC-353 Building Electrical and Control Systems

(3 cr.)

Repeatable for Credit: No

Fundamental theory and application of the design, layout, and construction of electrical and building control systems. Principles of code, design, construction documents reading, means and methods applied to electrical systems, lighting, building controls, and sustainable topics as related to electrical scope of work.

Prerequisites: Take AEC-237 and earn a C or better

AEC-357 Site Engineering

(3 cr.)

Repeatable for Credit: No

Use of surveying instruments, techniques, computations and computer technology used to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage.

Prerequisites: Take AEC-131 & MATH-121 or higher and earn a C or better

AEC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

AEC-459 Structural Systems-Concrete And Masonry

(3 cr.)

Repeatable for Credit: No

Analysis, selection, and delineation of concrete and masonry structural components and systems in buildings.

Prerequisites: Take AEC-458 and earn a C or better

AEC-470 Construction Estimating II

(3 cr.)

Repeatable for Credit: No

Total concept of construction industry costs. Computer-based estimating systems for construction. Contracting, financing, takeoff, pricing, bid preparation, resource and cost studies, control of costs and database operations.

Prerequisites: Take AEC-370 with a grade of C or better

AEC-471 Project Scheduling and Cost Control

(3 cr.)

Repeatable for Credit: No

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques.

Prerequisites: Take AEC-370 with a grade of C or better

AEC-472 Management of Construction

(4 cr.)

Repeatable for Credit: No

Capstone experience demonstrating skills of organization, management, and operations required within the built environment.

Prerequisites: Take BUMGT-304.

BULGL-473 Legal Aspects of Construction

(3 cr.)

Repeatable for Credit: No

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker.

PHYS-257 Introduction to Geology and Soil Mechanics

(3 cr.)

Repeatable for Credit: No

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics.

RC-388 Construction Safety

(3 cr.)

Repeatable for Credit: No

Overview of construction safety and health, including identification of the most common occupational hazards associated with the construction industry. Emphasis is on evaluating hazards, choosing appropriate controls to protect workers, and developing strategies for implementing these controls into effective management systems.

Criminal Justice and Rehabilitation, B.S.

Go to [program website](#)

Criminal Justice and Rehabilitation, B.S.: 4-year sequence

Introduction

The B.S. in Criminal Justice and Rehabilitation offers a unique approach to rehabilitation. The positive change model incorporates interdisciplinary training for recognition of the underlying factors that commonly lead to unlawful behavior and development of techniques required to affect positive behavioral change. Students are able to understand the impact of disability, mental illness, and substance abuse on the involvement in unlawful behavior, and furthermore apply knowledge to focus on rehabilitation of the offender rather than punishment and incarceration. Students develop skills in oral and written communication, critical thinking, and the ability to apply ethical and legal standards in decision making. The graduate is able to integrate and apply knowledge and human relation skills in the prevention, treatment, education, and rehabilitation of offenders. The development of interpersonal and social skills and the ability to examine and analyze individual needs prepares students for successful and rewarding professional careers.

Graduates of the Criminal Justice and Rehabilitation program work in positions such as probation and parole agents, correctional treatment specialists, juvenile counselors, and diversion court officers and administrators. Research indicates an increasing future demand for all related occupations. Students are required to maintain a 2.0 GPA per university standards through their first two years, and a 2.5 GPA per program standards following their junior year (90 credits).

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

SOC-110 Introductory Sociology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Introduction to sociological theories and methods in the study of social groups, interaction, inequality, and institutions. The place of the U.S. in a global context; comparisons of contemporary U.S. society with other societal and historical contexts. Processes of social location and inequalities, especially those pertaining to race/ethnicity.

Cross-disciplinary Issues (3 credits)

Courses must be from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

POLS-210 American Government

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

Major Studies (80 credits)

Required Courses (69 credits)

COUN-405 Helping Skills for the Professional

(3 cr.)

Repeatable for Credit: No

Develop basic helping skills including active listening; problem solving, goal setting, and decision-making; conflict resolution; information giving; assertion skills; and making referrals. Applicable when basic counseling is an appropriate helping response and also in any interpersonal relationship, including people with disability and ethnic diversity issues.

HDFS-255 Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

HDFS-335 Critical Cultural Competence

(3 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

Critical cultural competence and application to individuals and families. Systems of privilege and oppression. How socio-historical contexts shape interpersonal dynamics. Self-examination of cultural assumptions. Practice in critically thinking about difference and how to connect across differences.

PSYC-361 Abnormal Psychology

(3 cr.)

Repeatable for Credit: No

Symptoms, causes, and treatment of various psychological disorders; historical changes in conceptualization and classification of psychological disorders; ethical, legal, and professional issues associated with psychological disorder diagnosis and treatment.

REHAB-101 Introduction to Rehabilitation

(3 cr.)

Repeatable for Credit: No

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

REHAB-102 Community Resources

(3 cr.)

Repeatable for Credit: No

Role of community resources in rehabilitation.

REHAB-201 Pre Practicum in Rehabilitation

(1 cr.)

Repeatable for Credit: No

Issues related to professional development, ethics, and career awareness in vocational rehabilitation and criminal justice.

Prerequisites: take REHAB-101, REHAB-102, and REHAB-230

REHAB-217 Law Enforcement Policies and Procedures

(2 cr.)

Repeatable for Credit: No

Law enforcement policies, procedures, philosophies, ethics, and career awareness in criminal justice.

Prerequisites: take REHAB 101 and REHAB 102

REHAB-230 Psychosocial Aspects of Disability

(3 cr.)

Repeatable for Credit: No

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisite: take REHAB-101

REHAB-310 Vocational Assessment Applications in Rehabilitation

(3 cr.)

Repeatable for Credit: No

Common vocational assessment techniques used in rehabilitation settings with diverse populations. Students apply, interpret and synthesize assessment techniques such as consumer needs analysis, vocational interviewing, psychometric testing, occupational information, behavioral observation and work evaluation techniques to provide client feedback and promote informed career decision making.

Prerequisites: take REHAB-101 and REHAB-102

REHAB-315 Rehabilitation and Criminal Justice

(3 cr.)

Repeatable for Credit: No

Criminal justice system: process and individual rights. Crime data and criminal law, policing, adjudication. Process roles of corrections and professionals. Disability: demographics, issues and responses.

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-321 Rehabilitation of Public Offenders

(3 cr.)

Repeatable for Credit: No

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-327 Psychiatric Rehabilitation

(3 cr.)

Repeatable for Credit: No

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take REHAB-230 and PSYC-361

REHAB-333 Adolescent Substance Use and Abuse

(2 cr.)

Repeatable for Credit: No

Major concepts, current trends, and culturally sensitive approaches in the assessment, prevention and treatment of adolescent alcohol and drug addiction.

REHAB-398 Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: Yes

Community-based learning in an approved position to further develop skills and understanding of the challenges and potentials of various careers working with persons with disabilities, older adults and/or offenders. Written and oral communication emphasis.

Department Consent

Prerequisites: take REHAB-201 and COUN-405, each with a grade of "C" or better

REHAB-401 Principles and Techniques of Caseload Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities.

Prerequisites: take REHAB 102 and REHAB-230

REHAB-410 Job Placement Processes

(3 cr.)

Repeatable for Credit: No

Placement theory and methods used to assist people with disabilities to obtain appropriate employment.

Prerequisite: take REHAB-230

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-470 Work Adjustment Services

(2-3 cr.)

Repeatable for Credit: No

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing.

Prerequisite: take REHAB-310

REHAB-480 Advanced Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: No

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration.

Department Consent

Prerequisite: take REHAB-398

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

SOC-315 Criminology

(3 cr.)

Repeatable for Credit: No

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system.

Prerequisite: take SOC-110

SOC-375 Sociology Of Minority Groups

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

Selectives (11 credits)

Select credits from the approved list:

COUN-406 Peer Supervisory Experience

(1 cr.)

Repeatable for Credit: Yes

Experience in observation and feedback to peers undergoing counseling skill training.

Instructor's Consent Required

HDFS-310 Family Stress, Coping and Adaptation

(1 cr.)

Repeatable for Credit: No

Impact of family development and stress on individual and family well-being.

HDFS-420 Family Research and Methodology

(3 cr.)

Repeatable for Credit: No

Analysis of family theory, research methodology and selected topics in family relations.

Prerequisites: take HDFS-115 and HDFS-215

HDFS-456 Abuse and the Family

(3 cr.)

Repeatable for Credit: No

Definition and analysis of types of abuse in family context. Interrelationship of victims, perpetrators, other family members, helping professionals, social context. Risk factors, effects, reporting and recovery.

Prerequisites: take HDFS-115 and HDFS-215

PSYC-190 Psychological Research Methods

(4 cr.)

Repeatable for Credit: No

Introduction to research methods used in the behavioral sciences. Includes laboratory activities and application of methodologies and statistical software to understand and produce research compatible with American Psychological Association standards.

Prerequisite: take PSYC 110

PSYC-280 Forensic Psychology, Law and Ethics

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Surveys the application of psychological theory and research to legal and ethical questions and problems, from a community-oriented perspective. U.S. focus. Psychologists' roles in assessing and improving legal policies and practices, victim and offender well-being and law enforcement activity. Sociocultural bias/fairness explored.

PSYC-333 Drugs and the Brain

(3 cr.)

Repeatable for Credit: No

Comparison of psychoactive drug classes, including drugs used for treatment of psychological disorders, recreational drugs, and illegal drugs, with focus on brain and behavior. Evaluation of role of psychological, biological, and sociological factors in drug use and abuse.

Prerequisite: Take PSYC-110

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

PSYC-379 Public Relations

(2 cr.)

Repeatable for Credit: No

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

REHAB-461 Forensics for the Human Service Professional

(2 cr.)

Repeatable for Credit: No

Terminology and practices associated with forensic for human service professionals. Strategies and materials related to preparation for testimony and expert witness testimony in a court of law and other legal settings.

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

SOC-360 Sociology of Juvenile Delinquency

(3 cr.)

Repeatable for Credit: No

Theories of delinquency, criminal behavior, and social control in relation to modern institutions in American culture.

Prerequisite: take SOC-110

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work. Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

SPED-300 Introduction to Individuals with Cognitive Disabilities

(3 cr.)

Repeatable for Credit: No

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons.

SPED-301 Learning Disabilities

(3 cr.)

Repeatable for Credit: No

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults.

Dietetics, B.S.

Go to [program website](#)

Dietetics, B.S.: 4-year sequence

Introduction

The Dietetics program prepares graduates for careers in clinical and administrative dietetics, community and public health nutrition, corporate wellness, and nutrition education as well as for opportunities in the food services, business and industry.

The Dietetics program is currently granted approval status by the Commission on Accreditation for Dietetics Education, of the American Dietetic Association. Completion of the Didactic Program in dietetics and the baccalaureate degree meet minimum academic requirements for ADA membership, registration eligibility and application to a dietetic internship or preprofessional practice program. The B.S. degree in Dietetics is the first of three steps toward becoming a registered dietitian (*RD*).

The dietetic student receives an education with an emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this background, the student can move toward the community and business management of nutritional health, food service and dietetic practices that include nutrition counseling and medical nutritional therapy.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	42 credits
Major Studies	78 credits

Supervised work experience must be obtained through participation in the Field Experience program.

Students must attain a grade point of 2.0 or better in each of the General Education and Major Studies courses. (All transferred credits will meet this program requirement.) A 2.75 or greater grade point average is required for graduation. A minimum grade of B (3.0) is required in FN-212 Nutrition. Courses marked with an asterisk () are repeatable only once, and require a cumulative grade point average of 2.50.*

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (42 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (15-16 credits)

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

MATH-120 Introductory College Mathematics I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytical Reasoning

Repeatable for Credit: No

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations.

Prerequisite: Math Placement Level 2 or completion of MATH-90.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language

and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Additional Courses:

Choose 3 additional credits from one or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

FN-244 Farm to Fork: Food Issues

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Contemporary issues in agriculture, food production, and food processing; science, technology, and policy in the food system; critiques in agricultural sustainability; food consumption choice; food system changes and implications on individuals and society.

Social Responsibility and Ethical Reasoning (3 credits)

FN-210 Issues and Ethics in Food and Nutrition

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Apply ethical reasoning to analyze and solve contemporary issues in food and nutrition such as current recommendations, overweight and obesity, sustainability, and food insecurity.

Major Studies (78 credits)

Physical and Biological Sciences (15 Credits)

BIO-306 General Microbiology

(4 cr.)

Repeatable for Credit: No

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or any CHEM

BIO-362 Advanced Physiology

(3 cr.)

Repeatable for Credit: No

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisites: C or better in BIO-234

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

Nutrition and Medical Nutrition Therapy (22 credits)

FN-207 Medical Terminology

(1 cr.)

Repeatable for Credit: No

Medical terminology for allied health occupations. Self-paced instruction utilizing a word-building system to learn word parts used to construct or analyze new terms. Emphasis on spelling, definition, usage and pronunciation.

FN-212 Nutrition

(3 cr.)

Repeatable for Credit: No

Basic principles of nutrition applied to current issues in health maintenance.

Prerequisites: take BIO-234 and CHEM-115 or higher

FN-312 Nutritional Assessment

(2 cr.)

Repeatable for Credit: No

Fundamental principles and techniques of nutritional assessment, application of nutritional assessment skills, and interpretation of assessment data.

Prerequisite: take FN-212

FN-320 Advanced Nutrition

(3 cr.)

Repeatable for Credit: No

Concepts of the metabolic and physiological functions of nutrients at the molecular, cellular, tissue, organ and system level. Emphasis on coordinated control of nutrient metabolism.

Prerequisite: take FN-212 and CHEM-311

FN-413 Maternal and Child Nutrition

(3 cr.)

Repeatable for Credit: No

Application of principles to maternal, infant, child and adolescent nutrition.
Prerequisites: take FN-212 & take either BIO-132 or BIO-234

FN-415 Nutritional Issues in Gerontology

(3 cr.)

Repeatable for Credit: No

Theory and relationships of nutrition, longevity and aging. Food and nutrition legislation for the elderly--theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly.

Prerequisite: take FN-212

FN-417 Medical Nutritional Therapy I

(3 cr.)

Repeatable for Credit: No

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporates principles of medical nutritional therapy in nutrition assessment, diet prescription, medications, care plans and documentation.

Prerequisites: take FN-312 and CHEM-311

FN-418 Medical Nutritional Therapy II

(4 cr.)

Repeatable for Credit: No

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporation of the principles of nutrition assessment, diet prescription, medications, care plans, and documentation into the management of disease processes.

Prerequisites: take CHEM-311, FN-312 and FN-417

Nutrition Education/Counseling, Communication and Community Nutrition (9 credits)

FN-360 Nutrition Counseling: A Team Approach

(3 cr.)

Repeatable for Credit: No

Inter-disciplinary team approach to individual and group client centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention.

Prerequisite: take FN-312

FN-380 Community Nutrition

(3 cr.)

Repeatable for Credit: No

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve

nutrition problems.

Prerequisite: take FN-212

FN-406 Nutrition Education

(3 cr.)

Repeatable for Credit: No

Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources.

Prerequisite: take FN-212

Food and Food Science (7 credits)

FN-240 Food Science

(4 cr.)

Repeatable for Credit: No

Understanding the Science of Food through physical, chemical, and microbiological changes affecting storage, processing and distribution of various food products.

Prerequisite: take CHEM-201

FN-461 Multicultural Aspects of Food & Nutrition Patterns

(3 cr.)

Global Perspective

Repeatable for Credit: No

Dietary behavior, nutrition patterns, and health are influenced by many factors, including social, religious, geographical, economic, political and technological factors. The socio-cultural aspects of food, nutrition and health among regional, national and international cultures will be examined.

Prerequisite: FN 212

Food Service Administration/Management (18 credits)

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

FN-105 Food Service Sanitation

(1 cr.)

Repeatable for Credit: No

Preparation for the ServSafe Food Protection Manager Certification Examination. Safe food handling practices.

FN-330 Institutional Menu Planning

(3 cr.)

Repeatable for Credit: No

Principles of cycle menu planning, design, and marketing for institutional food settings, which includes culinary skills, basic food preparation and modified menus to meet the special dietary needs of an individual or group.

Prerequisite: take FN-212

HT-150 Institutional Food Purchasing

(2 cr.)

Repeatable for Credit: No

Methods of large-quantity food purchasing: determining standards, specific needs and industrial offerings; formulating specifications, buying procedures and controls.

HT-324 Quantity Food Production

(3 cr.)

Repeatable for Credit: No

Quantity food production management concepts; menu planning, work production schedules, production analysis, food and labor cost controls, and sales projections, crisis and service management techniques; lab work in quantity food production and service; recipe development and introduction to productivity and work simplification concepts.

Prerequisites: Take HT 121 and FN-115 and FN-215, or take FN-124 and FN-240

HT-362 Foodservice Finance and Cost Control

(3 cr.)

Repeatable for Credit: No

The use of financial techniques and systems to develop and analyze budgets, control food, beverage, and labor costs in foodservice operations.

Prerequisite: take BUACT-206

HT-450 Food Service Administration

(3 cr.)

Repeatable for Credit: No

Organization and administration of institutional foodservice systems, personnel selection and training, cost control and problems of supervision.

Career Awareness (4 credits)

FN-101 Dietetics as a Profession

(1 cr.)

Repeatable for Credit: No

Survey of types of dietetic and foodservice administration programs in the United States; role and function of staff; professional literature.

FN-397 Field Experience

(2 cr.)

Repeatable for Credit: No

FN-408 Preprofessional Development in Dietetics and Nutrition

(1 cr.)

Repeatable for Credit: No

Provide a step by step, efficient and effective process toward completion of application for Supervised Practice Programs (Dietetic Internships), graduate school or employment.

Nutrition Selective (3 credits)

FN-355 Sports Nutrition

(3 cr.)

Repeatable for Credit: No

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

Prerequisite: take FN-212

FN-410 Food & Nutrition Policy Regulation & Law

(3 cr.)

Repeatable for Credit: No

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review.

Digital Marketing Technology, B.S.

Go to [program website](#)

Introduction

The Bachelor of Science in Digital Marketing Technology is the first of its kind in this emerging field. The digitization of communications has created a fundamental switch that places technology at the heart of the process of marketing communications. New careers are emerging, and few people possess the required educational background to thrive in this new field.

Digital marketing technology falls broadly into the field of "Informatics," which is the study of how users and systems interact to accomplish goals. The program takes a multidisciplinary approach featuring content, design, development, and distribution.

The heart of the curriculum is in areas of web technology and enterprise technology systems. Courses in software and web applications, marketing, design, production, and analytics provide a cross-disciplinary approach to prepare students for a broad range of careers where the job titles are just emerging and will be constantly changing and growing in the foreseeable future.

Businesses realize the importance of hiring people who understand both process and technology, which results in a hot job market where talent is limited, jobs are abundant, and salaries are high. This program prepares students for this job market and to grow as it changes.

Program Requirements

Total for graduation	120 credits
General Education	40-41 credits
Major Studies	79-80 credits

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40-41 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10-11 credits)

Students are required to take a 4 credit Natural Science with a lab.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

MATH-123 Finite and Financial Mathematics with Applications

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Topics in business-related mathematical problem solving including simple and compound interest, annuities, mortgages, supply and demand, break-even analysis. Best-fit lines, problem solving with systems of linear equations, linear programming, matrices, Gaussian elimination, set theory, Venn diagrams, permutations, combinations, basic and conditional probability, expected value.

Prerequisites: Math Placement Level 2 or completion of MATH-90 with a grade of C+ or better.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

PHOTO-110 Mobile Device Photography: Visual Literacy and Image Narrative

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to visual literacy through still and moving image photography, utilizing mobile devices. Narrative, cinematic, and photographic theory with an emphasis on developing analytic and conceptual skills. Concepts, processes and techniques applicable to many disciplines. A student-provided mobile device (smartphone) with still photographic and video capabilities is required for the course.

(recommended)

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

(recommended)

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology, and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Course may be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (79-80 credits)

Professional Technology Core (40 credits)

**CI Students employed in the field should consult with Program Director if a coop is not a valid option.*

CS-141 Introduction to Programming

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Solving problems using computer programming. Input/output, user interface, objects, events, flow of control, functions, arrays.

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

DMT-101 Introduction to Digital Marketing Technology

(1 cr.)

Repeatable for Credit: No

Survey of changes, challenges, opportunities in business and industry for the digital marketing technologies professional. Program advisement, course sequence, career pathways and job opportunities.

Digital Marketing Technology Majors Only

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

DMT-485 Search Engine Optimization

(3 cr.)

Repeatable for Credit: No

Contemporary application of strategies and technology related to the improvement of placement in search engine and other relevant search results.

- DMT-X49 Cooperative Education Experience* (3 cr.)

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

ICT-255 Basic Data Concepts

(3 cr.)

Repeatable for Credit: No

Database application exploration in an enterprise context with basic data concepts, principles and guidelines of relational database design, common entity relationships, basic queries, and security and data integrity.

ICT-355 ICT Systems Analysis and Design

(3 cr.)

Repeatable for Credit: No

Information and communication technologies (ICT) systems analysis and design methods supporting contemporary enterprise. Includes roles, relationship to systems development life cycle (SDLC) reflecting contemporary ICT systems analysis and design practice, methodologies and ICT project management.

Prerequisites: take ICT 255 and ICT 305

ICT-405 Enterprise Technology Seminar

(3 cr.)

Repeatable for Credit: No

Trends in enterprise technology, including: systematic development processes to solve business problems and support business processes, identification and use of contemporary enterprise technology solutions, sources of enterprise technology support, training and information and enterprise technology credentialing and career opportunities.

Prerequisite: take ICT 355

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Management Core (21 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BUMKG-350 Digital Marketing Strategy and Practice

(3 cr.)

Repeatable for Credit: No

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans.

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

Choose 3 credits from:

BUMKG-479 Marketing Research

(3 cr.)

Repeatable for Credit: No

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management.

Prerequisites: take BUMKG-330 & either STAT 130, STAT-320, or STAT-331

ICT-309 Collaborative Computing

(3 cr.)

Repeatable for Credit: No

History, application, design and analysis of collaborative computing.

Prerequisite: take ICT-103

ICT-401 Information Technology Policy and Audit

(3 cr.)

Repeatable for Credit: No

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take ICT-305 and BUACT-206

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers.

Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

Selectives (18-19 credits)

Selectives can come from approved minors, transfer credits, or other related areas of focus with program director's approval. Credits from the following UW-Stout subject areas would satisfy elective credits without program director approval: BUACT, BUMGT, BUMKG, CMG, CS, GCOM, ICT, INMGT, ITM, DES, MATH, PHOTO, STAT.

NOTE: 18-19 credits is the minimum number required to get to total program credits of 120.

Early Childhood Education, B.S.

Go to [program website](#)

Early Childhood Education, B.S.: 4-year sequence

Introduction

Curriculum in the Early Childhood Education program is designed to prepare resourceful, creative and competent graduates to work in settings with young children. The program emphasizes theory and practice and meets the requirements for birth through grade three teaching certification for the State of Wisconsin. Academic course work is enriched by involvement with children in early childhood settings early in the program, with observation and participation experiences in UW-Stout's Child and Family Study Center. Graduates are employed as preschool, kindergarten and primary teachers, and administrators of early childhood care centers, curriculum specialists, and resource and referral specialists within corporations and the public sector. Two concentrations, Special Education and Early Childhood-Middle Childhood, are available options and require additional coursework.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Students must demonstrate proficiency in American Red Cross First Aid procedures, either by verifying current certification with their adviser, or by satisfactory completion of HLTH-340 ARC Standard First Aid and Personal Safety (adding 1 credit to the program credit total).

**Required courses with a grade point of 2.0 ("C") or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.*

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

**Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).*

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

BIO-101 Introductory Biology

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Introduction to the science of biology including life processes, cell biology, genetics, molecular biology, evolution, ecology, plant and animal diversity. Living systems are viewed from the sub-cellular to the community level, emphasizing the diversity, functioning, and interaction of whole organisms.

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Arts and Humanities (6 credits)

LIT-300 Children's Literature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey and ways of presenting literature for children from infancy to age 12.

Prerequisite: take either ENGL-101 or ENGL-111

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

Social and Behavioral Sciences (6 credits)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Cross-disciplinary Issues (3 credits)

EDUC-210 Impacts of Technology on Learning

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

The impacts of technology on individual learners and society; the role technology plays in both the information and formal education of individuals; contemporary developments and issues related to the use of technology in individual and collective learning scenarios.

Social Responsibility and Ethical Reasoning (3 credits)

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

Selectives (3 credits)

Courses/credits may be taken from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

(Minimum grade of "C" required in all courses)

Early Childhood Education Major Studies (56 credits)

CHEM-105 Visualizing Chemistry

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Simple demonstrations that illustrate and reinforce understanding of the physical and chemical properties of matter. Description of the underlying chemistry and chemical safety. A special course fee applies.

ECE-100 Introduction to Early Childhood Programs

(2 cr.)

Repeatable for Credit: No

Introduce early childhood profession. Early childhood programs for children birth through age eight; developmentally appropriate practice; current issues in early childhood; professionalism; employability skills and attitudes; and career exploration. Decision making and appropriate planning of students' early childhood program plan.

Prerequisite: Early Childhood Education majors only

ECE-105 Infant/Toddler Education

(3 cr.)

Repeatable for Credit: No

Examine developmentally appropriate practice for educating infants and toddlers. Environment; instructional practices for individual and small group; lesson plans including assessment strategies, instructional technology techniques, and materials.

Take concurrently with HDFS-124

ECE-200 Expressive Curriculum for the Young Child

(3 cr.)

Repeatable for Credit: No

Curriculum, methods and materials related to music, art and creative movement activities for the young child.

ECE-205 Preschool/Kindergarten Education

(3 cr.)

Repeatable for Credit: No

Developmentally appropriate practice in preschool/kindergarten curriculum. Environment; instructional practices for individual, small and large group instruction; lesson plans including assessment strategies, instruction technology techniques, and materials.

ECE-264 Child Guidance in PreSchool - Kindergarten

(2 cr.)

Repeatable for Credit: No

Essential elements in guiding children in early childhood classrooms. Positive guidance strategies, introduction to early childhood classroom management, effects of guidance on children's social and emotional development; methods in documenting children's behavior, progress, development.

Completion of Tier 1: HDFS-124 and ECE-105

ECE-305 Primary Education

(3 cr.)

Repeatable for Credit: No

Focus on developmentally appropriate teaching practices in primary classrooms (grades 1-3). Program models; learning environments; local, state, and national standards; assessment techniques; instructional approaches and lesson planning for primary

students.

Prerequisite: Completion of Tier 2 and Benchmark 1, and concurrent enrollment in ECE-313

ECE-313 Language Arts and Emergent Reading: Birth-Kindergarten

(3 cr.)

Repeatable for Credit: No

Methods and materials for planning, implementing, and evaluating language arts with children Birth-Kindergarten. Emphasis is on developing emergent literacy skills and language arts.

Prerequisite: Completion of Tier 2 and Benchmark 1, and concurrent enrollment in ECE-305

ECE-411 Early Childhood Curriculum: Mathematics

(3 cr.)

Repeatable for Credit: No

Mathematics curriculum planning for early childhood. Selection, organization, presentation, and evaluation of appropriate curricula.

Prerequisites: take ECE-421, ECE-435, and ECE-480

ECE-415 Early Childhood Curriculum: Science/Social Studies

(4 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing, and evaluating early childhood social studies and science curriculum.

Prerequisites: take ECE-421, ECE-435, and ECE-480

ECE-421 Administration Of Early Childhood Programs

(2 cr.)

Repeatable for Credit: No

A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs in a safe and healthy environment.

Completion of Tier 3: ECE-313 and ECE-305

ECE-426 Classroom Management in the Primary Classroom

(2 cr.)

Repeatable for Credit: No

Advanced study of managing early childhood classrooms. Management of the physical environment, instructional context, including large and small groups, and social context; building a classroom community; encouraging collaborative learning; assessing management of early childhood classrooms; and analysis of classroom management programs. Microclinical in early childhood classrooms required.

Prerequisites: take ECE-421, ECE-435, and ECE-480

ECE-435 Children, Families, Schools and Communities

(2 cr.)

Repeatable for Credit: No

Building family, school, and community partnerships to support the whole child. Demographics and sociological trends of modern families. Theories and processes used to establish positive and sustaining home-school-community relationships.

Completion of Tier 3: ECE-313 and ECE-305

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

FN-102 Nutrition for Healthy Living

(2 cr.)

Repeatable for Credit: No

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition- exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well- being.

HDFS-124 Human Development: Early Childhood

(3 cr.)

Repeatable for Credit: No

Principles and theories of growth and development prenatal through pre-adolescence, with a systemic perspective on physical, motor, cognitive, language and social and emotional development. Observations required.

PHYS-258 Introduction to Geology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

RDGED-414 Literacy Instruction and Assessment in the Primary Grades

(5 cr.)

Repeatable for Credit: No

Balanced approach to scientifically based literacy instruction in the primary grades to include theoretical frameworks of literacy learning, program organization, effective instructional strategies, assessments, and informal evaluation techniques as related to instructional planning. Phonemic awareness, phonics, word study, fluency, comprehension, and vocabulary instruction.

Prerequisites for BS ECE students: ECE-421, ECE-435, and ECE-480 Prerequisites for BS Spec Ed students: completion of Benchmark I

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Field Experience/Student Teaching (24 credits)

ECE-480 Pre-Student Teaching: Infant-Preschool

(4-8 cr.)

Repeatable for Credit: No

Full-day, pre-student teaching placement for eight weeks. Age group includes infants or toddlers or preschoolers. Placement will include involvement with young children and parents. Teacher candidates will be supervised by faculty in the early childhood area. Placement will follow the school calendar.

Prerequisite(s): Completion of Tier 3: ECE-313 and ECE-305

ECE-493 Student Teaching: Kindergarten

(4-8 cr.)

Repeatable for Credit: No

Full-day student teaching at the kindergarten level in a public school setting. Experience will follow the public school district calendar.

Department Consent

Prerequisite: Professional Program Admission

ECE-494 Student Teaching: Primary

(4-8 cr.)

Repeatable for Credit: No

Full-day student teaching at the primary level (grades 1-3) in a public school setting. Primary student teaching experience follows the public school district calendar.

Department Consent

Prerequisite: Professional Program Admission

Concentrations (19 credits)

(Minimum grade of "C" required in all courses)

These optional concentrations are in addition to the 120-credit general requirements for the program.

Special Education (19 credits)

SPED-305 Introduction to Early Childhood Special Education

(3 cr.)

Repeatable for Credit: No

History and purpose of Early Childhood Special Education. Programming; legislation; population receiving services; adaptations; strategies; family intervention; intervention models; inclusion of all students in the natural environment or least restrictive environment.

SPED-310 ECSE Methods, Materials and Curriculum

(3 cr.)

Repeatable for Credit: No

Curricular and methodological adaptation; embedding goals and objectives for young children with exceptional needs in the areas of social-emotional development, motor skills, self-help skills, communication, cognitive development.

SPED-315 Early Childhood Special Education Organization and Implementation

(3 cr.)

Repeatable for Credit: No

Organization and implementation of Early Childhood Special Education programs. Service delivery; itinerant services; consultation and collaboration; and intervention models.

SPED-320 Early Childhood Special Education Assessment

(3 cr.)

Repeatable for Credit: No

Supervised practice in assessment of young children with suspected or identified developmental delays. Standardized and informal assessment instruments for screening; determining eligibility for special needs programming; and progress monitoring of early learning in early childhood children.

SPED-336 Early Childhood Special Education Pre-Student Teaching

(2 cr.)

Repeatable for Credit: No

Supervised experience in teaching children with exceptionalities. Instructional practices based on knowledge of the child, family, community, and the curriculum.

Prerequisite: take SPED-305

SPED-482 Student Teaching Early Childhood-Special Education

(4-8 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected infant-toddler, preschool, or school based programs for children with disabilities.

Early Childhood-Middle Childhood Education (19 credits)

ECE-308 Methods, Materials, and Management for Middle Childhood Education

(3 cr.)

Repeatable for Credit: No

Focus on developmentally appropriate teaching practices in elementary classrooms (grades 4-6). Program models; learning environments; local, state, and national standards; assessment techniques; instructional approaches, and lesson planning for elementary students.

Prerequisite: Benchmark I Completed

ECE-310 Middle Childhood: Curriculum and Methods for Teaching Science

(2 cr.)

Repeatable for Credit: No

Curriculum, methods, and assessment in middle childhood science teaching for children ages 9 through 11. Knowledge and performances in the areas of planning, classroom management, instruction, and professional responsibilities of reflection, communication are the focus.

Prerequisite: Benchmark I Completed

ECE-311 Middle Childhood: Curriculum and Methods for Teaching Math

(2 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing and evaluating mathematics curricula for elementary classrooms (grades 4-6). emphasis is placed on: 1) utilizing process skills, 2) fostering content knowledge in the mathematical areas, 3) assessment, 4) mathematical content instruction, and 5) building positive attitudes for the mathematical classroom. Students will continue to develop skills in the classroom environment while maintaining professional responsibilities for teaching at the elementary level.

Prerequisite: Benchmark I completion

ECE-312 Middle Childhood: Curriculum and Methods for Social Studies

(2 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing and evaluating social studies curricula for elementary classrooms(grades 4-6). emphasis is placed on: 1) utilizing development skills, 2) fostering content knowledge in the content of social studies, 3) assessment, 4) social studies content instruction, and 5) building positive attitudes for the teaching of social studies in the classroom. Develop skills in the classroom environment and maintain professional responsibilities for teaching at the elementary level.

Prerequisite: Benchmark I completion

ECE-314 Middle Childhood: Curriculum and Methods Language Arts

(2 cr.)

Repeatable for Credit: No

Methods and materials for assessing, planning, implementing and evaluating reading/language arts curricula for elementary classrooms (grades 4-6). Emphasis is placed on: 1) utilizing development skills, 2) fostering content knowledge in the content of reading/language arts, 3) assessment, 4) reading/language arts content instruction, and 5) building positive attitudes for the teaching of reading/language arts in the classroom. Develop skills in the classroom environment and maintain professional responsibilities for teaching at the elementary level.

Prerequisite: Benchmark 1 Completion

ECE-315 Student Teaching in Elementary Grades 4-6

(2-8 cr.)

Repeatable for Credit: No

Observations, direct teaching, and experiences in selected school settings for grades 4-6. Supervised by a licensed elementary educator/administrator and UW-Stout supervising instructor.

Department Consent

Prerequisite: Enrollment by consent of the Clinical Placement Coordinator

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/current/ugbmi.cfm.

- Pass one of the following skills tests: PPST, CORE, ACT, SAT or GRE. Test scores and test completion dates must meet required specifications as detailed on the SOE web page listed above
- Pass the required teacher background check
- Earn a grade of at least 2.00 (C) in ENGL-101 or ENGL-102 or ENGL-111 and ENGL-112
- Earn a grade of at least 2.00 (C) in COMST-100
- Earn a minimum grade of 2.00 (C) in ECE-100 Introduction to Early Childhood Programs
- Complete EDUC-326 Foundations of Education.
- Satisfactorily complete Benchmark I Review

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/current/ugbmii.cfm.

- Complete electronic portfolio
- Receive satisfactory portfolio assessment by faculty
- Pass Content Knowledge Exam
- Receive clearance through an updated background check
- Maintain a 2.75 grade point average
- Complete a satisfactory tuberculosis (*TB*) test
- Submit copies of resume to the School of Education prior to student teaching
- Complete Application for Student Teaching form

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/current/ugbmiii.cfm.

- Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- Complete all program coursework
- Meet all program-specific requirements
- Student teach at three levels: infant/toddler/preschool, kindergarten and primary.
- Receive a satisfactory student teaching assessment

Engineering Technology, B.S.

Go to [program website](#)

Engineering Technology, B.S. 4-year sequences:

- Electrical Concentration
- Mechanical Design Concentration
- Plastics Concentration
- Production Operations Concentration

Introduction

UW-Stout's Engineering Technology degree provides a broad background in industrial practices combined with an in-depth study in an engineering-related concentration. The program is designed to prepare graduates for industrial positions related to the engineering concentration area, with an appropriately broad background for later advancement into management positions. Typical entry-level positions include Design Engineer, Project Engineer, Plant Engineer, Process Engineer, Designer, Industrial Engineer, Production Scheduler and Applications Engineer. Students in the program develop knowledge and competencies in the concentration engineering area, materials and manufacturing methods, management/overview of the industrial organization, effective oral and written communication, and the application of physical science and mathematics principles to understand and solve technological and economic problems found in industry.

To complete the program successfully, students are required to achieve a 2.5 GPA in program coursework, at the time of graduation.

General Requirements Bachelor of Science Degree

Total for graduation	121-122 credits
General Education	41 credits
Professional Studies	25-26 credits
Concentrations	55 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (41 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech

organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (14 credits)

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Remaining course must be from an area including anthropology, geography, political science, psychology and sociology.

ECON-201 General Economics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to basic economic principles and methods. Microeconomics deals with choices of consumers and firms, market structure, price theories, and taxes. The course covers macroeconomics issues such as national income (GDP), economic growth and development, employment, inflation, money and Federal Reserve, interest rate, investment, the exchange rate, and International Trade.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Course must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Course must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Studies (25-26 credits)

BUACT-200 Financial-Managerial Accounting- Engineering Technology

(2 cr.)

Repeatable for Credit: No

Survey of financial accounting concepts for a sole proprietorship, partnership, and corporation. Managerial accounting concepts will be covered in use of the annual report, with emphasis on financial statement analysis.

BUACT-201 Financial-Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Managerial accounting concepts will be covered in the use of the annual report, with emphasis on financial statement analysis including the cash flow statement and budgets. *BS Engineering Technology, Industrial Management, Applied Science and Graphic Communication Management students only.*

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ET-100 Introduction to Engineering Technology

(1 cr.)

Repeatable for Credit: No

Definition, history, and future of the engineering technology field and the present and emerging concentration areas. Business and industry links to options within engineering technology and the necessary preparation to meet graduates' future professional demands.

INMGT-200 Production and Operations Management

(3 cr.)

Repeatable for Credit: No

A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.

Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

ETECH-150 Introduction to Engineering Materials

(3 cr.)

Repeatable for Credit: No

Exposure to engineering materials, their properties, and behavior. topics will include: material types, testing, mechanical properties, heat treatment, and material selection. Students are expected to have had H.S. chemistry.

Math Placement >= MATH-120, or MATH-150

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Concentrations (55 credits)

Students elect one of the following concentrations:

Electrical (55 credits)

Core Requirements (49 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-260 Electrical Circuits

(3 cr.)

Repeatable for Credit: No

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take ET 204, MATH 153 and either PHYS 242 or PHYS 282

ET-271 Digital Logic and Switching

(3 cr.)

Repeatable for Credit: No

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebra and number systems, switching functions, minimization, single and multiple output networks, realization of functions, programmable logic devices. Finite state sequential machines, state transition diagrams, machines and state equivalence. Algorithmic state machines and asynchronous state machines.

Prerequisite: take ET-260

ET-272 Solid State Electronics

(3 cr.)

Repeatable for Credit: No

Basic semiconductor theory dealing with signals, operational amplifiers, diodes, bipolar junction and field effect transistor, frequency response, feedback, and circuit analysis.

Prerequisite: take ET 260

ET-290 Statics and Dynamics

(3 cr.)

Repeatable for Credit: No

Force systems and equilibrium in 2 and 3 dimensions, free body diagrams, trusses, frames, friction. Kinematic analysis of particle and rigid body translation, rotation, and general plane motion. Force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, and forced vibrations.

Prerequisites: take PHYS-241 or PHYS-281 and MATH 153

ET-374 Fundamentals Of Microprocessors and Microcomputer Systems

(3 cr.)

Repeatable for Credit: No

Concepts of microprocessors, microcomputer architecture, assembly language programming and peripheral components. Hardware topics include 80 x 86 processors, interrupts, bios, serial and parallel interfaces, video displays, hard drives, CD roms, memory devices and local and peripheral buses.

Prerequisites: take ET-271, ET 272 and CS 145

ET-340 Motors and Generators

(3 cr.)

Repeatable for Credit: No

Practical approach to basic operating theory, construction, maintenance of generators, motors, transformers, and machine control.

Prerequisite: take ET 260

ET-341 Electrical and Mechanical Interface Devices

(3 cr.)

Repeatable for Credit: No

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control.

Prerequisites: take ET-204, either PHYS 242 or PHYS 282 and ETECH-260

ET-382 Electronic Communications

(3 cr.)

Repeatable for Credit: No

Electrical/electronic communication systems, modulation, demodulation, R.F. and I.F. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters, spectral representation of signals, amplitude modulation, AM/FM transmitters, side band transmission, AM/FM receivers, and frequency modulation.

Prerequisite: take ET 260

ET-405 Capstone I: Design Practicum

(3 cr.)

Repeatable for Credit: No

Capstone course for all Engineering Technology concentrations. Practical application of concentration topic in a team project. Creativity, documentation standards, design for manufacturability, design analysis, team dynamics, finite element analysis, and communication skills are applied to an industrial standard in the design of a machine, system, or product.

Prerequisites or concurrent enrollment in ET-332 or ETECH-343 or INMGT-440 or INMGT-365 or ET-374; Senior status

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-260 Introduction to Fluid Power

(2 cr.)

Repeatable for Credit: No

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

Concentration Selectives (6 credits)

Choose 6 credits from the following:

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

ETECH-420 Engineering Graphics Applications

(3 cr.)

Repeatable for Credit: No

Applications of contemporary software and hardware used to produce solutions for mechanical engineering design. Design to requirements, parametric three dimensional modeling, additive manufacturing, and Geometric Dimensions and Tolerances.

Introduction to advanced tools used for design optimization and efficiency.

Prerequisite: Take ETECH-210

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Additional Courses:

Courses may be selected from any 300 or 400 level courses with the following prefixes: AEC, BUINB, BULGL, BUMKG, BUSCM, CHEM, COMST, CS, ENGR, ET, ETECH, INMGD and RC.

Mechanical Design (55 credits)

Core Requirements (51 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-290 Statics and Dynamics

(3 cr.)

Repeatable for Credit: No

Force systems and equilibrium in 2 and 3 dimensions, free body diagrams, trusses, frames, friction. Kinematic analysis of particle and rigid body translation, rotation, and general plane motion. Force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, and forced vibrations.

Prerequisites: take PHYS-241 or PHYS-281 and MATH 153

ET-341 Electrical and Mechanical Interface Devices

(3 cr.)

Repeatable for Credit: No

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control.

Prerequisites: take ET-204, either PHYS 242 or PHYS 282 and ETECH-260

ET-405 Capstone I: Design Practicum

(3 cr.)

Repeatable for Credit: No

Capstone course for all Engineering Technology concentrations. Practical application of concentration topic in a team project.

Creativity, documentation standards, design for manufacturability, design analysis, team dynamics, finite element analysis, and communication skills are applied to an industrial standard in the design of a machine, system, or product.

Prerequisites or concurrent enrollment in ET-332 or ETECH-343 or INMGT-440 or INMGT-365 or ET-374; Senior status

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

ETECH-260 Introduction to Fluid Power

(2 cr.)

Repeatable for Credit: No

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

ETECH-420 Engineering Graphics Applications

(3 cr.)

Repeatable for Credit: No

Applications of contemporary software and hardware used to produce solutions for mechanical engineering design. Design to requirements, parametric three dimensional modeling, additive manufacturing, and Geometric Dimensions and Tolerances.

Introduction to advanced tools used for design optimization and efficiency.

Prerequisite: Take ETECH-210

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products.

Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ET-291 Strength of Materials

(3 cr.)

Repeatable for Credit: No

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

Prerequisite: take ET 290

ET-332 Design of Machine Components

(4 cr.)

Repeatable for Credit: No

Load analysis, stress analysis, and failure analysis. Design of machine elements including fasteners, gearing, bearings, shafts and other power transmission components.

Prerequisites: take ET-291

ET-393 Design of Machines and Mechanisms

(3 cr.)

Repeatable for Credit: No

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces.

Prerequisite: take ET-290

ET-320 Prototype Development and Model Making

(3 cr.)

Repeatable for Credit: No

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three- dimensional objects using traditional and nontraditional machining and forming

techniques. Three-dimensional design problems form the core of this course.
Prerequisites: take ETECH-110 or ETECH-150 or PKG-210

ET-422 Research and Development

(3 cr.)

Repeatable for Credit: No

Research and development procedures applied to specific industrial material and processing problems.

Prerequisites: take ETECH 205

ET-410 Capstone II: Design Lab

(3 cr.)

Repeatable for Credit: No

An experimental study in the design of electro- mechanical systems. Design, functional prototype construction, experimentation and validation of systems are emphasized.

Prerequisites: take ET-405 and ET-341

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Concentration Selectives (4 credits)

Choose 4 credits from the following:

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Additional Courses:

Courses may be selected from any 300 or 400 level courses with the following prefixes: AEC, BUINB, BULGL, BUMKG, BUSCM, CHEM, COMST, CS, ENGR, ET, ETECH, INMGTT and RC.

Plastics (55 credits)

Core Requirements (51 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-325 Chemistry of Polymers

(4 cr.)

Repeatable for Credit: No

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-290 Statics and Dynamics

(3 cr.)

Repeatable for Credit: No

Force systems and equilibrium in 2 and 3 dimensions, free body diagrams, trusses, frames, friction. Kinematic analysis of particle and rigid body translation, rotation, and general plane motion. Force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, and forced vibrations.

Prerequisites: take PHYS-241 or PHYS-281 and MATH 153

ET-341 Electrical and Mechanical Interface Devices

(3 cr.)

Repeatable for Credit: No

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control.

Prerequisites: take ET-204, either PHYS 242 or PHYS 282 and ETECH-260

ET-405 Capstone I: Design Practicum

(3 cr.)

Repeatable for Credit: No

Capstone course for all Engineering Technology concentrations. Practical application of concentration topic in a team project. Creativity, documentation standards, design for manufacturability, design analysis, team dynamics, finite element analysis, and communication skills are applied to an industrial standard in the design of a machine, system, or product.

Prerequisites or concurrent enrollment in ET-332 or ETECH-343 or INMGT-440 or INMGT-365 or ET-374; Senior status

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

ETECH-250 Introduction to Plastics

(3 cr.)

Repeatable for Credit: No

Examine basics of molecular structure, mechanical behavior, and rheological properties of plastics. Overview of plastics processing, new technologies related to processing, post-consumer-life, and introduction to ASTM/ISO standards used for testing and materials characterization.

Prerequisite: take either ETECH-150, ETECH 100, or ETECH 110

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products.

Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-260 Introduction to Fluid Power

(2 cr.)

Repeatable for Credit: No

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

ETECH-420 Engineering Graphics Applications

(3 cr.)

Repeatable for Credit: No

Applications of contemporary software and hardware used to produce solutions for mechanical engineering design. Design to requirements, parametric three dimensional modeling, additive manufacturing, and Geometric Dimensions and Tolerances.

Introduction to advanced tools used for design optimization and efficiency.

Prerequisite: Take ETECH-210

ETECH-303 Computer Aided Manufacturing

(3 cr.)

Repeatable for Credit: No

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation.

Prerequisites: take ETECH-252 and ETECH 210

ETECH-341 Injection Molding Technology

(3 cr.)

Repeatable for Credit: No

Injection molding process parameters, part and tooling design, materials selection, quoting, rapid prototyping, troubleshooting, and cycle time reduction efforts. Laboratory experiments for understanding various technologies associated with injection molding of quality parts.

Prerequisite: take either ETECH-250 or ETECH-251

ETECH-343 Extrusion Technology

(3 cr.)

Repeatable for Credit: No

Extrusion and the various processes associated with extrusion; profile, flat film, blown film and die design. Laboratory experiments for understanding various technologies associated with extrusion of quality parts, including tooling options, failure analysis, and product design.

Prerequisite: take either ETECH-250 or ETECH-251

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

**1-8 cr. courses. 1 cr. required.*

Concentration Selectives (4 credits)

Choose 4 credits from the following:

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

**1-8 cr. courses. 1-2 crs. required.*

Additional Courses:

Courses may be selected from any 300 or 400 level courses with the following prefixes: AEC, BUINB, BULGL, BUMKG, BUSCM, CHEM, COMST, CS, ENGR, ET, ETECH, INMGT and RC.

Production Operations (55 credits)

Core Requirements (47 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-290 Statics and Dynamics

(3 cr.)

Repeatable for Credit: No

Force systems and equilibrium in 2 and 3 dimensions, free body diagrams, trusses, frames, friction. Kinematic analysis of particle and rigid body translation, rotation, and general plane motion. Force-acceleration analysis, work-energy analysis, impulse momentum

analysis, impact, and forced vibrations.

Prerequisites: take PHYS-241 or PHYS-281 and MATH 153

ET-341 Electrical and Mechanical Interface Devices

(3 cr.)

Repeatable for Credit: No

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control.

Prerequisites: take ET-204, either PHYS 242 or PHYS 282 and ETECH-260

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

**1-8 cr. courses. 1 cr. required.*

ET-405 Capstone I: Design Practicum

(3 cr.)

Repeatable for Credit: No

Capstone course for all Engineering Technology concentrations. Practical application of concentration topic in a team project.

Creativity, documentation standards, design for manufacturability, design analysis, team dynamics, finite element analysis, and communication skills are applied to an industrial standard in the design of a machine, system, or product.

Prerequisites or concurrent enrollment in ET-332 or ETECH-343 or INMGT-440 or INMGT-365 or ET-374; Senior status

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-260 Introduction to Fluid Power

(2 cr.)

Repeatable for Credit: No

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity

management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

INMGT-350 Facilities Planning

(3 cr.)

Repeatable for Credit: No

Study of facilities location, structure, and planning for efficient layout and material handling systems.

Prerequisite: take INMGT 200

ETECH-345 Design and Simulation of Manufacturing Systems

(3 cr.)

Repeatable for Credit: No

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical reports summarizing projects. Recommended: statistical knowledge.

Prerequisites: take STAT 130, STAT 320 or STAT-330

Concentration Selectives (8 credits)

Choose 8 credits from the following:

ET-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work

periods, each one building and expanding on the previous.
Department Consent

ET-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

**1-8 cr. courses. 1-2 crs. required.*

Additional Courses:

Courses may be selected from any 300 or 400 level courses with the following prefixes: AEC, BUINB, BULGL, BUMKG, BUSCM, CHEM, COMST, CS, ENGR, ET, ETECH, INMGD and RC.

Entertainment Design, B.F.A.

Go to [program website](#)

Entertainment Design, B.F.A. 4-year Sequence:

- Animation Concentration

Introduction

The Bachelor of Fine Arts (BFA) in Entertainment Design program prepares students for careers in the fields of rapidly expanding and innovative fields of digital media. The entertainment design program encompasses disciplines related to the entertainment and media industry, particularly, animation. UW-Stout graduates from this program hold jobs at a variety of animation studios, in the health care industry and at many graphic design and interactive design firms.

The entertainment design program will provide students with the specific skills needed to enter the industry, as well as, a strong foundation and breadth of core skills that will allow them to adapt to new technologies and fluctuating industry needs throughout their careers. The entertainment design program integrates and fosters a strong relationship between fine art and digital media, as well as, technical and creative writing skills. Students will acquire hands on experience using industry standard tools, software and creative techniques, as well as, be encouraged to participate in research projects, co-ops or study abroad programs.

A required mid-program portfolio review offers entertainment design students an assessment of their progress in foundation art and design courses. Extensive library resources and the art and design department visual resource center are significant assets. A 2.0 overall grade point average and a 2.5 or better in art and design department courses is required to complete this Bachelor of Fine Arts degree. Entertainment Design students must present a portfolio of their work in the final semester as part of a public exhibition hosted by the School of Art and Design.

The BFA in Entertainment Design program provides a specialized education and is accredited by the National Association for Schools of Art and Design.

General Requirements Bachelor of Fine Arts

Total for graduation	120 credits
General Education	40 credits
Foundation Core Requirements	35 credits
Concentration	45 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech

organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

ENGL-245 Creative Writing

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Introduction to creative writing with an ethics component in four genres: Poetry, fiction, drama, and creative nonfiction.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

LIT-208 Fiction Into Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of film adaptations. Special attention is given to the evolving depiction of non-dominant racial and ethnic cultural groups in literature and film.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-230 American Cinema

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of American cinematic development. Special attention is given to the evolving depiction of non-dominant cultural groups and contemporary issues. Examination of these issues allows students to actively discover, assess, and execute the creative problem-solving needed to be fully engaged with contemporary issues.

Prerequisite: take either ENGL-101 or ENGL-111

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Foundation Core Requirements (35 credits)

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

DES-176 Introduction to Digital Narrative

(3 cr.)

Repeatable for Credit: No

Visual storytelling and time-based foundations (4D) for animation, digital cinema, comics, game design, transmedia design and other time-based forms. Emphasis on ideation through writing, storyboarding and concept illustration. Introduction to the field of entertainment design.

DES-205 Design Drawing and Concept Visualization

(3 cr.)

Repeatable for Credit: No

Comprehensive education and training in developing, visualizing, and communicating design ideas through drawing.

Prerequisites: take ART-200 with a grade of C or better

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

DES-321 Digital Imagery Studio

(3 cr.)

Repeatable for Credit: Yes

A studio workshop experience in digital painting, photo illustration and image compositing using digital tools. Advanced topics and projects rotate.

Prerequisites: take ART-200, DES-205 & DES-220, each with a grade of C or better

DES-390 Professional Practices in Design

(2 cr.)

Repeatable for Credit: No

Professional Practices in Design. Practices and portfolio seminar for all Design students. Students develop promotional materials, discuss related business strategies and legal issues, and establish short and long term career goals.

Prerequisites: Successful completion of mid program review (instructor approval for graduate students).

DES-490 Senior Project: Entertainment Design

(3-4 cr.)

Repeatable for Credit: Yes

Advanced entertainment design topic explored through the completion of professional level projects from concept to published media. Capstone project for the BFA in Entertainment Design. Repeatable. Specific topics and projects rotate each semester. Students are required to take a minimum of two consecutive semesters.

Instructor's Consent Required

- DES-X49 Co-op, Field Experience or Other: as approved by program director (1 cr.)

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Animation Concentration (45 credits)

Animation Requirements (15 credits)

DES-378 Animation Studio

(3 cr.)

Repeatable for Credit: Yes

Animation techniques, topics and projects. Course provides an introduction to 2D and s-motion animation techniques. Advanced students work individually and in teams to produce and critically examine self-directed projects. Specific topics and projects rotate each semester.

Prerequisites: take DES-176 and DES-220, each with a grade of C or better

DES-372 3D Modeling and Animation I

(3 cr.)

Repeatable for Credit: No

Introduction to 3D digital modeling, animation, texturing, lighting, and rendering techniques. Using digital design elements and visual aesthetics, students create 3D digital imagery and animations.

Prerequisites: take ART-103 & DES-220, each with a grade of C or better

DES-374 3D Modeling - Organics

(3 cr.)

Repeatable for Credit: No

Intermediate design studio course focused on developing 3D organic models and textures. Creation of robust digital imagery and animations using rendering and visual aesthetics.

Prerequisites: take DES-372 with a grade of C or better

DES-373 3D Modeling - Hard Surface

(3 cr.)

Repeatable for Credit: Yes

Intermediate design studio course focused on developing 3D hard surface models, textures and environment lighting. Creation of robust digital imagery and animations using rendering and visual aesthetics.

Prerequisite: take DES 372 with a grade of C or better

Design Studio Selectives (12 credits)

DES-310 Graphic Design I

(3 cr.)

Repeatable for Credit: No

Exploration of the formal qualities of creating effective and informative design. Foundational design elements including line, shape, form and texture; compositional principle concepts of balance, contrast, grid structures and hierarchy.

Prerequisites: take ART-101 or DES-210, each with a grade of C or better

DES-350 3D Game Art and Engines

(3 cr.)

Repeatable for Credit: No

Investigation into ways 3D modeling, animation and texturing can be incorporated into interactive experiences using industry standard 3D game engines and emergent technology for user interaction.

Prerequisite: take DES 372 with a grade of C or better or instructor consent

DES-375 Digital Cinema Studio

(3 cr.)

Repeatable for Credit: Yes

Techniques, topics and projects for digital cinema. Emphasis on creative direction, aesthetics, content and narrative development. Advanced students work individually and in teams to produce and critically examine self-directed projects. Advanced topics and projects rotate each semester.

Prerequisites: take DES-176, DES-220 and ART-100, each with a grade of C or better

DES-379 Comics & Sequential Art Studio

(3 cr.)

Repeatable for Credit: Yes

Techniques, topics and projects. Introduction to the art and craft of combining words and illustrated pictures to create narrative works. Advanced students work individually and in teams to produce and critically examine self-directed projects. Advanced topics and

projects rotate each semester.

Prerequisites: take DES-176, DES-220 and ART-100, each with a grade of C or better

DES-389 Typography in Motion

(3 cr.)

Repeatable for Credit: No

Introduction into dynamic, time-based typography covering technology and skills involved in creating kinetic and emotive typography with various media.

Prerequisites: take DES-325 and DES-360, each with a grade of C or better

PHOTO-330 Video Production

(3 cr.)

Repeatable for Credit: No

Introduction to essential concepts and techniques of video production. Emphasis is placed on preproduction and preparation for production, writing proposals and treatments, story-boarding and developing a workflow appropriate to the project. Students develop camera operation, audio, lighting, directing, producing and editing skills. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO 130 and a DSLR camera with full manual controls in still and video capture modes is required.

Art Studio Requirements (9 credits)

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

- ART-XXX Studio Art course (3 cr.)

Art History (9 credits)

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-340 History of Interactive Media

(3 cr.)

Repeatable for Credit: No

Survey of historical developments leading to, and in the design of, video games, the Internet, and related media. Must be in a BFA major, Art Ed or GDD major

ARTH-341 History of Film

(3 cr.)

Repeatable for Credit: No

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted filmmakers from around the world.

Environmental Science, B.S.

Go to [program website](#)

Environmental Science, B.S. 4-year sequences:

- Aquatic Biology Concentration
- Environmental Health Concentration
- Natural Resources Conservation Concentration - Chemistry Track
- Natural Resources Conservation Concentration - Geographic Information Systems Track

Introduction

Graduates obtaining a B.S. in Environmental Science are well-prepared to meet today's rapidly shifting global career demands and to face opportunities focused on environmental preservation, restoration, and sustainable management. Concentrations are designed to prepare students for professional careers and/or advanced studies. These concentrations provide proficiency and expertise in the areas of: Aquatic Biology, Environmental Health, and Natural Resources Conservation Concentration Chemistry Track or Geographic Information Systems Track. Upon completion of the environmental science program, students will possess a strong foundation of environmental science, use problem-solving skills, and apply theoretical principles to research, geographic information systems, statistical applications and sustainability modeling. Students are introduced to various components of industry via a required internship. Graduates are prepared to solve real life environmental problems as a result of practical skills developed in the field and in the lab. The focus on global ethical responsibility combined with communication and teamwork enhance students' professionalism and social awareness for success in individual and collaborative settings.

General Requirements Bachelor of Science Degree

Total for graduation	120-22 credits
General Education	40 credits
Core Requirements	34 credits
Concentrations	46 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech

organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (11 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

PHYS-258 Introduction to Geology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

MATH-121 Introductory College Mathematics II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two-dimensional analytic geometry.

Prerequisite: Math Placement Level 3 or completion of MATH-120

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses. Recommend RES-A or RES-B course.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses. Recommend RES-A or RES-B course.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (2 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Core Requirements (34 credits)

BIO-242 Botany

(5 cr.)

Repeatable for Credit: No

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

BIO-252 Zoology

(5 cr.)

Repeatable for Credit: No

Investigation of vertebrate and invertebrate animal life, including phylogenetics, systematics, physiology, and behavioral characteristics.

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

BIO-386 Introduction to Biostatistical Analysis

(3 cr.)

Repeatable for Credit: No

Overview of quantitative analytical techniques applied to biological questions using the scientific method. Statistical procedures will encompass descriptive and inferential techniques including graphical display of data, quantitative description, hypothesis testing, and study design as applied to biological and health sciences.

Prerequisites: Take BIO 135, BIO 136, BIO 242, or BIO 252 ; and take MATH 121 or equivalent

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENSC-101 Environmental Science Profession

(1 cr.)

Repeatable for Credit: No

A survey of the Environmental Science program and academic support services to advance students' career goals. Research, leadership, internship, service learning, and other important career enhancing experiences will be explored. Participation in inclusive excellence activities will expose students to issues that are relevant in an increasingly culturally diverse work environment.

ENSC-398 Field Experience in Environmental Science

(1-6 cr.)

Repeatable for Credit: No

A field experience in environmental science in an approved position consisting of a minimum of 320 hours of work experience.

Student learning objectives, employer evaluations, student evaluation, interim reports, and a final written report and oral presentation are required.

Department Consent

ENSC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PHYS-358 Soil Science and Conservation

(4 cr.)

Repeatable for Credit: No

Soil formation and the relationship of its physical, chemical, and biological properties to natural and agricultural ecosystems, with implications for sustainable management.

Prerequisites: Take CHEM-135 and PHYS-258

BIO-451 Research Methods in Environmental Science

(3 cr.)

Repeatable for Credit: No

Application of environmental research methods to original scientific investigations. Development of advanced skill in environmental data collection methods. Proposal of an original research study. Design, implementation, analysis, and interpretation of study results. Dissemination of research to a broader audience in both written and oral forms.

Prerequisites: Take BIO 350, BIO 386, or STAT 320; take ENGL 410 or concurrent enrollment

ENSC-425 Environmental Science and Sustainability Capstone

(3 cr.)

Repeatable for Credit: No

Sustainable solutions to real-world problems will be developed through partnerships with private, public, and/or industrial sectors of society. Projects will be taken from the ideation phase to the completion of the required final documentation. The design of a triple-bottom-line solution will be emphasized.

Prerequisite: Must be Senior level or higher

Concentrations (46 credits)

Aquatic Biology Concentration

Required Courses (28 credits)

BIO-450 Aquatic Ecology and Management

(4 cr.)

Repeatable for Credit: No

Principles of lake ecology, water resources degradation, management, and restoration. Diagnosis of water quality problems and solutions with emphasis on field research techniques, empirical modeling, and nutrient budgetary approaches. Integrated research/service experiences.

Prerequisites: take BIO 350 and CHEM-135

PHYS-458 Applied Watershed Hydrology

(4 cr.)

Repeatable for Credit: No

Overview of the role of surface and groundwater flow in watersheds and how scientists study them including the impacts of anthropogenic activity and landscape characteristics on water quality at the watershed scale.

MATH 121 , CHEM 135 , and Junior or Senior status.

BIO-260 Ichthyology - Wisconsin Fishes

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Introduction to the study of fishes, including morphology, taxonomy, classification, evolution, behavior, and general ecology of fishes. Special emphases on field identification of Wisconsin fishes, management of Wisconsin fish populations, and global conservation of fishes.

BIO-452 Wetland Ecology and Delineation

(4 cr.)

Repeatable for Credit: No

Physical, biological, and biogeochemical processes that influence wetland systems. Wetland permitting, management, and restoration. Wetland delineation, including classification, hydrology, soils identification, and plant identification.

Prerequisites: take BIO-242 or BIO 252 , and take CHEM-135

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

BIO-306 General Microbiology

(4 cr.)

Repeatable for Credit: No

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or any CHEM

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

GEOG-251 Introduction to Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Experience, using state of the art GIS and GPS equipment and theoretical background explaining the many roles GIS technology has in displaying analyzing spatial problems. Major components include computer representation of geographic information, fundamentals of cartography, construction of GIS databases, spatial analysis, and application areas of GIS.

GEOG-351 Intermediate Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Basic analytical operations in Geographic Information Systems using GIS software.

Prerequisite: take GEOG-251

GEOG-451 Advanced Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Integration of Geographic Information Systems (GIS) and analytical and quantitative methodologies using spatial analysis, geostatistical analysis, network analysis, and 3-D analysis.

Prerequisite: take GEOG-351

Aquatic Biology - Selectives (18 cr.)

If not taken to satisfy other Aquatic Biology requirements, the following courses may be used to satisfy this selective requirement.

ANTH-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

GEOG-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

SOC-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

BIO-250 Chainsaw Safety Certification Levels 1 and 2

(1 cr.)

Repeatable for Credit: No

Two day field course introducing chainsaw use, maintenance, and safety. Chainsaw parts their function and care; proper care and use of personal protective equipment; creating a pre-fell plan and safety evaluation; and notching, felling, limbing, and bucking techniques. Chainsaw safety certifications will be awarded upon completion.

BIO-253 Wildlife Techniques

(2 cr.)

Repeatable for Credit: No

Methods of wildlife field sampling and identification.

Prerequisite: take BIO 242 or BIO 252

BIO-260 Ichthyology - Wisconsin Fishes

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Introduction to the study of fishes, including morphology, taxonomy, classification, evolution, behavior, and general ecology of fishes. Special emphases on field identification of Wisconsin fishes, management of Wisconsin fish populations, and global conservation of fishes.

BIO-270 Natural History of the Neotropics

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Natural history of neotropical marine and terrestrial systems, including coral reefs and rainforests. Focus on patterns and processes underlying biodiversity of the tropics, including ecological principles, specific adaptations, and taxonomy of tropical biota. Introduction to human cultures of the neotropics and their historical and contemporary impacts on tropical diversity.

BIO-306 General Microbiology

(4 cr.)

Repeatable for Credit: No

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or any CHEM

BIO-324 Vascular Plant Taxonomy

(4 cr.)

Repeatable for Credit: No

Plant classification, identification, and evolution. Focus on flowering plant families of the Upper Midwest. Field trips and plant collection required.

Prerequisite: BIO-242

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-352 Restoration Ecology

(4 cr.)

Repeatable for Credit: No

The theory and practice of restoring and managing ecological communities. Laboratory emphasis on creating a management plan for a natural area. Weekend field trip(s) may be required.

Prerequisite: take BIO 350

BIO-355 Entomology

(4 cr.)

Repeatable for Credit: No

Biology of insects and related arthropods, with emphasis on evolution, ecology, behavior, biodiversity, morphology, and systematics. Laboratory emphasizes identification and collection.

Prerequisites: Take BIO 111, BIO 135, BIO 136, BIO 141, BIO 242, or BIO 252

BIO-450 Aquatic Ecology and Management

(4 cr.)

Repeatable for Credit: No

Principles of lake ecology, water resources degradation, management, and restoration. Diagnosis of water quality problems and solutions with emphasis on field research techniques, empirical modeling, and nutrient budgetary approaches. Integrated research/service experiences.

Prerequisites: take BIO 350 and CHEM-135

BIO-452 Wetland Ecology and Delineation

(4 cr.)

Repeatable for Credit: No

Physical, biological, and biogeochemical processes that influence wetland systems. Wetland permitting, management, and restoration. Wetland delineation, including classification, hydrology, soils identification, and plant identification.

Prerequisites: take BIO-242 or BIO 252 , and take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-452 Environmental Regulations Management

(3 cr.)

Repeatable for Credit: No

Laws governing environmental issues. Environmental regulations, applicability of the laws, and resources for interpreting the regulations. Evaluation of environmental research.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

ECON-250 Introduction to Environmental Economics and Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Economic analysis of environmental issues. How economic systems can form incentives for either environmental degradation and improvement. How producers and consumers in the market system experience the responsibility to protect the environment. Topics include market failure, the valuation of nonmarket goods, cost-benefit analysis, Environmental Justice, and environmental policy analysis.

GEOG-310 Food Justice

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

Analysis of food "geographies" - how food travels from farm to table; the importance of power and justice in the production, distribution and consumption of food. Exploration of issues of food democracy, food justice, and food sovereignty. Special attention to racial and class-based inequities within the global food system.

GEOG-452 Geographic Information Systems Research Analysis

(2-4 cr.)

Repeatable for Credit: No

Individualized research applying advanced GIS techniques to problems related to students' areas of study under the supervision of faculty members in their programs. Students plan, design and execute GIS projects which build geographic databases, analyze data spatially, and present results.

Prerequisite: take GEOG 451

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

PAX-271 Conflict Resolution and Analysis

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

An overview of the interdisciplinary field of conflict resolution and analysis in terms of theory, research, and practice. Diverse strategies for conflict mediation are explored. Social, environmental and economic justice are studied as the consequences of nonviolent conflict resolution strategies.

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-257 Introduction to Geology and Soil Mechanics

(3 cr.)

Repeatable for Credit: No

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics.

PHYS-458 Applied Watershed Hydrology

(4 cr.)

Repeatable for Credit: No

Overview of the role of surface and groundwater flow in watersheds and how scientists study them including the impacts of anthropogenic activity and landscape characteristics on water quality at the watershed scale.

MATH 121 , CHEM 135 , and Junior or Senior status.

POLS-320 Public Administration

(3 cr.)

Repeatable for Credit: No

Principles and problems of public administration in America with special attention given to the problems of democratic control and development of basic concepts of the field.

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

Environmental Health Concentration

Required Courses (41 credits)

BIO-262 Introduction to Industrial Hygiene and Occupational Health

(3 cr.)

Repeatable for Credit: No

Introduction to the field of industrial hygiene and occupational health. The course focuses concepts, terminology, and methodology in the practice of industrial hygiene and identifies resource materials. The class is intended for students majoring in applied science, environmental science, biology, chemistry or health fields; or students wishing to pursue a graduate degree in risk control, safety, industrial hygiene or toxicology.

BIO-306 General Microbiology

(4 cr.)

Repeatable for Credit: No

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or any CHEM

BIO-336 Infection and Immunity

(4 cr.)

Repeatable for Credit: No

Examination of the human immune system and infectious diseases including past epidemics as well as emerging infections in society.

Prerequisites: Take either BIO-136 or BIO-306 or CHEM-311

PHYS-458 Applied Watershed Hydrology

(4 cr.)

Repeatable for Credit: No

Overview of the role of surface and groundwater flow in watersheds and how scientists study them including the impacts of anthropogenic activity and landscape characteristics on water quality at the watershed scale.

MATH 121 , CHEM 135 , and Junior or Senior status.

BIO-460 Epidemiology

(3 cr.)

Repeatable for Credit: No

Principles of epidemiology, determinants of major public health problems including infectious and chronic diseases, environmental health, and emerging threats.

Prerequisites: take BIO 386 or STAT-320

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-452 Environmental Regulations Management

(3 cr.)

Repeatable for Credit: No

Laws governing environmental issues. Environmental regulations, applicability of the laws, and resources for interpreting the regulations. Evaluation of environmental research.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

FN-105 Food Service Sanitation

(1 cr.)

Repeatable for Credit: No

Preparation for the ServSafe Food Protection Manager Certification Examination. Safe food handling practices.

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

Environmental Health - Selectives (5 credits)

If not taken to satisfy other Environmental Health requirements, the following courses may be used to satisfy this selective requirement.

ANTH-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

GEOG-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

SOC-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

BIO-270 Natural History of the Neotropics

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Natural history of neotropical marine and terrestrial systems, including coral reefs and rainforests. Focus on patterns and processes underlying biodiversity of the tropics, including ecological principles, specific adaptations, and taxonomy of tropical biota. Introduction to human cultures of the neotropics and their historical and contemporary impacts on tropical diversity.

BIO-336 Infection and Immunity

(4 cr.)

Repeatable for Credit: No

Examination of the human immune system and infectious diseases including past epidemics as well as emerging infections in society.

Prerequisites: Take either BIO-136 or BIO-306 or CHEM-311

BIO-355 Entomology

(4 cr.)

Repeatable for Credit: No

Biology of insects and related arthropods, with emphasis on evolution, ecology, behavior, biodiversity, morphology, and systematics. Laboratory emphasizes identification and collection.

Prerequisites: Take BIO 111, BIO 135, BIO 136, BIO 141, BIO 242, or BIO 252

BIO-358 Introductory Pharmacology

(2 cr.)

Repeatable for Credit: No

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination.

Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system.

Prerequisites: take BIO-132, BIO-234 or CHEM-135

BIO-360 Introduction to Neuroscience

(3 cr.)

Repeatable for Credit: No

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisites: BIO-132 or BIO-234

BIO-362 Advanced Physiology

(3 cr.)

Repeatable for Credit: No

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisites: C or better in BIO-234

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-206 Organic Chemistry II Laboratory

(1 cr.)

Repeatable for Credit: No

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Prerequisite: take CHEM-201; Corequisite: take CHEM-204

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

ECON-250 Introduction to Environmental Economics and Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Economic analysis of environmental issues. How economic systems can form incentives for either environmental degradation and improvement. How producers and consumers in the market system experience the responsibility to protect the environment. Topics include market failure, the valuation of nonmarket goods, cost-benefit analysis, Environmental Justice, and environmental policy analysis.

FN-402 Food Microbiology

(3 cr.)

Repeatable for Credit: No

Application of microbiology concepts relevant to food products; analysis for food spoilage microorganisms and foodborne pathogens based on conventional methods; molecular detection techniques; intrinsic and extrinsic parameters for food preservation.

Prerequisite: take BIO-306

GEOG-310 Food Justice

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

Analysis of food "geographies" - how food travels from farm to table; the importance of power and justice in the production, distribution and consumption of food. Exploration of issues of food democracy, food justice, and food sovereignty. Special attention to racial and class-based inequities within the global food system.

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

PHYS-458 Applied Watershed Hydrology

(4 cr.)

Repeatable for Credit: No

Overview of the role of surface and groundwater flow in watersheds and how scientists study them including the impacts of anthropogenic activity and landscape characteristics on water quality at the watershed scale.

MATH 121 , CHEM 135 , and Junior or Senior status.

POLS-320 Public Administration

(3 cr.)

Repeatable for Credit: No

Principles and problems of public administration in America with special attention given to the problems of democratic control and development of basic concepts of the field.

RC-383 Occupational Safety and Health Standards

(3 cr.)

Repeatable for Credit: No

Understanding and proper application of a range of regulations and standards relating to occupational safety and health.

Natural Resources Conservation Concentration

Required Courses (18 credits)

BIO-324 Vascular Plant Taxonomy

(4 cr.)

Repeatable for Credit: No

Plant classification, identification, and evolution. Focus on flowering plant families of the Upper Midwest. Field trips and plant collection required.

Prerequisite: BIO-242

BIO-352 Restoration Ecology

(4 cr.)

Repeatable for Credit: No

The theory and practice of restoring and managing ecological communities. Laboratory emphasis on creating a management plan for a natural area. Weekend field trip(s) may be required.

Prerequisite: take BIO 350

BIO-452 Wetland Ecology and Delineation

(4 cr.)

Repeatable for Credit: No

Physical, biological, and biogeochemical processes that influence wetland systems. Wetland permitting, management, and restoration. Wetland delineation, including classification, hydrology, soils identification, and plant identification.

Prerequisites: take BIO-242 or BIO 252 , and take CHEM-135

PHYS-458 Applied Watershed Hydrology

(4 cr.)

Repeatable for Credit: No

Overview of the role of surface and groundwater flow in watersheds and how scientists study them including the impacts of anthropogenic activity and landscape characteristics on water quality at the watershed scale.

MATH 121 , CHEM 135 , and Junior or Senior status.

BIO-450 Aquatic Ecology and Management

(4 cr.)

Repeatable for Credit: No

Principles of lake ecology, water resources degradation, management, and restoration. Diagnosis of water quality problems and solutions with emphasis on field research techniques, empirical modeling, and nutrient budgetary approaches. Integrated research/service experiences.

Prerequisites: take BIO 350 and CHEM-135

CHEM-452 Environmental Regulations Management

(3 cr.)

Repeatable for Credit: No

Laws governing environmental issues. Environmental regulations, applicability of the laws, and resources for interpreting the regulations. Evaluation of environmental research.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

Choose one of the following courses (3 credits):

ANTH-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

GEOG-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

SOC-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts

include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

ECON-250 Introduction to Environmental Economics and Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Economic analysis of environmental issues. How economic systems can form incentives for either environmental degradation and improvement. How producers and consumers in the market system experience the responsibility to protect the environment. Topics include market failure, the valuation of nonmarket goods, cost-benefit analysis, Environmental Justice, and environmental policy analysis.

PAX-271 Conflict Resolution and Analysis

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

An overview of the interdisciplinary field of conflict resolution and analysis in terms of theory, research, and practice. Diverse strategies for conflict mediation are explored. Social, environmental and economic justice are studied as the consequences of nonviolent conflict resolution strategies.

POLS-320 Public Administration

(3 cr.)

Repeatable for Credit: No

Principles and problems of public administration in America with special attention given to the problems of democratic control and development of basic concepts of the field.

Choose Geographic Information Systems Track or Chemistry Track (12 credits)

Must choose a track (12 credits): Geographic Information Systems OR Chemistry

Geographic Information Systems Track

GEOG-251 Introduction to Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Experience, using state of the art GIS and GPS equipment and theoretical background explaining the many roles GIS technology has in displaying analyzing spatial problems. Major components include computer representation of geographic information, fundamentals of cartography, construction of GIS databases, spatial analysis, and application areas of GIS.

GEOG-351 Intermediate Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Basic analytical operations in Geographic Information Systems using GIS software.

Prerequisite: take GEOG-251

GEOG-451 Advanced Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Integration of Geographic Information Systems (GIS) and analytical and quantitative methodologies using spatial analysis, geostatistical analysis, network analysis, and 3-D analysis.

Prerequisite: take GEOG-351

Chemistry Track

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

Choose 8 credits from the following courses:

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-206 Organic Chemistry II Laboratory

(1 cr.)

Repeatable for Credit: No

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Prerequisite: take CHEM-201; Corequisite: take CHEM-204

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

Natural Resources Conservation Concentration - Selectives (16 credits)

If not taken to satisfy other Natural Resources Conservation requirements, the following courses may be used to satisfy this selective requirement.

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

AEC-357 Site Engineering

(3 cr.)

Repeatable for Credit: No

Use of surveying instruments, techniques, computations and computer technology used to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage.

Prerequisites: Take AEC-131 & MATH-121 or higher and earn a C or better

BIO-250 Chainsaw Safety Certification Levels 1 and 2

(1 cr.)

Repeatable for Credit: No

Two day field course introducing chainsaw use, maintenance, and safety. Chainsaw parts their function and care; proper care and use of personal protective equipment; creating a pre-fell plan and safety evaluation; and notching, felling, limbing, and bucking techniques. Chainsaw safety certifications will be awarded upon completion.

BIO-253 Wildlife Techniques

(2 cr.)

Repeatable for Credit: No

Methods of wildlife field sampling and identification.

Prerequisite: take BIO 242 or BIO 252

BIO-260 Ichthyology - Wisconsin Fishes

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Introduction to the study of fishes, including morphology, taxonomy, classification, evolution, behavior, and general ecology of fishes. Special emphases on field identification of Wisconsin fishes, management of Wisconsin fish populations, and global conservation of fishes.

BIO-270 Natural History of the Neotropics

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Natural history of neotropical marine and terrestrial systems, including coral reefs and rainforests. Focus on patterns and processes underlying biodiversity of the tropics, including ecological principles, specific adaptations, and taxonomy of tropical biota. Introduction to human cultures of the neotropics and their historical and contemporary impacts on tropical diversity.

BIO-306 General Microbiology

(4 cr.)

Repeatable for Credit: No

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular

biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or any CHEM

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-352 Restoration Ecology

(4 cr.)

Repeatable for Credit: No

The theory and practice of restoring and managing ecological communities. Laboratory emphasis on creating a management plan for a natural area. Weekend field trip(s) may be required.

Prerequisite: take BIO 350

BIO-355 Entomology

(4 cr.)

Repeatable for Credit: No

Biology of insects and related arthropods, with emphasis on evolution, ecology, behavior, biodiversity, morphology, and systematics. Laboratory emphasizes identification and collection.

Prerequisites: Take BIO 111, BIO 135, BIO 136, BIO 141, BIO 242, or BIO 252

BIO-450 Aquatic Ecology and Management

(4 cr.)

Repeatable for Credit: No

Principles of lake ecology, water resources degradation, management, and restoration. Diagnosis of water quality problems and solutions with emphasis on field research techniques, empirical modeling, and nutrient budgetary approaches. Integrated research/service experiences.

Prerequisites: take BIO 350 and CHEM-135

BIO-452 Wetland Ecology and Delineation

(4 cr.)

Repeatable for Credit: No

Physical, biological, and biogeochemical processes that influence wetland systems. Wetland permitting, management, and restoration. Wetland delineation, including classification, hydrology, soils identification, and plant identification.

Prerequisites: take BIO-242 or BIO 252 , and take CHEM-135

BIO-460 Epidemiology

(3 cr.)

Repeatable for Credit: No

Principles of epidemiology, determinants of major public health problems including infectious and chronic diseases, environmental health, and emerging threats.

Prerequisites: take BIO 386 or STAT-320

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-353 Environmental Chemistry

(4 cr.)

Repeatable for Credit: No

Chemical processes that regulate the composition of air, water and soil and the influence of anthropogenic activities. Training in precision laboratory techniques and statistical treatment of data from analyses of environmental samples.

Prerequisites: take CHEM 136

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

GEOG-251 Introduction to Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Experience, using state of the art GIS and GPS equipment and theoretical background explaining the many roles GIS technology has in displaying analyzing spatial problems. Major components include computer representation of geographic information, fundamentals of cartography, construction of GIS databases, spatial analysis, and application areas of GIS.

GEOG-310 Food Justice

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

Analysis of food "geographies" - how food travels from farm to table; the importance of power and justice in the production, distribution and consumption of food. Exploration of issues of food democracy, food justice, and food sovereignty. Special attention to racial and class-based inequities within the global food system.

GEOG-351 Intermediate Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Basic analytical operations in Geographic Information Systems using GIS software.

Prerequisite: take GEOG-251

GEOG-451 Advanced Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Integration of Geographic Information Systems (GIS) and analytical and quantitative methodologies using spatial analysis, geostatistical analysis, network analysis, and 3-D analysis.

Prerequisite: take GEOG-351

GEOG-452 Geographic Information Systems Research Analysis

(2-4 cr.)

Repeatable for Credit: No

Individualized research applying advanced GIS techniques to problems related to students' areas of study under the supervision of faculty members in their programs. Students plan, design and execute GIS projects which build geographic databases, analyze data spatially, and present results.

Prerequisite: take GEOG 451

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-257 Introduction to Geology and Soil Mechanics

(3 cr.)

Repeatable for Credit: No

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics.

PHYS-458 Applied Watershed Hydrology

(4 cr.)

Repeatable for Credit: No

Overview of the role of surface and groundwater flow in watersheds and how scientists study them including the impacts of anthropogenic activity and landscape characteristics on water quality at the watershed scale.

MATH 121 , CHEM 135 , and Junior or Senior status.

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

Family and Consumer Sciences Education, B.S.

Go to [program website](#)

Introduction

The Bachelor of Science degree in Family and Consumer Sciences Education prepares students to teach in elementary, middle, junior high and high school settings across the United States. The program prepares professionals who are knowledgeable regarding subject matter and content in the field of family and consumer sciences education, including life-span human development, personal and family relationships, parenting, consumer economics, food and nutrition, housing, textiles, and apparel. The program is also offered with a distance option for geographically-bound students seeking Career and Technical Education certification.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Content Core	36 credits
Professional Education	44 credits

An overall cumulative GPA of 2.75 is required for graduation.

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

English and Speech courses require a grade of C or better.

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal,

professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Remaining course must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

FN-123 Science of Food

(2 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Sciences

Repeatable for Credit: No

Integrated scientific concepts in food products and ingredients; food composition and physical properties; methods, processes, and unit operations in food manufacturing.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and the Humanities (6 credits)

Remaining course must be from areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

Social and Behavioral Sciences (6 credits)

ECON-201 General Economics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to basic economic principles and methods. Microeconomics deals with choices of consumers and firms, market structure, price theories, and taxes. The course covers macroeconomics issues such as national income (GDP), economic growth and development, employment, inflation, money and Federal Reserve, interest rate, investment, the exchange rate, and International Trade.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

EDUC 330 and HIST 210 or ANTH 220 are required to meet teaching license requirements.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Content Core (36 credits)

APRL-166 Apparel Construction I

(3 cr.)

Repeatable for Credit: No

Study and application of woven apparel construction techniques, fabric selection, and fit.

APRL-167 Textiles I: Theory, Fibers and Structures

(3 cr.)

Repeatable for Credit: No

Study of fibers, yarns, textiles, and textile manufacturing processes, and how target market needs are addressed through textile selection.

FCSE-380 Consumer Economics

(3 cr.)

Repeatable for Credit: No

Personal and family consumer economics for family and consumer education programs; management of human and non-human resources in achieving personal, family and community goals.

Prerequisites: take either ECON-201 or ECON-210

FCSE-385 Family Housing

(3 cr.)

Repeatable for Credit: No

Individual/family's housing needs and resources as a basis for family and consumer education programs. The impact of historical, environmental, social, cultural, and technological, aesthetic, and design influences.

FN-102 Nutrition for Healthy Living

(2 cr.)

Repeatable for Credit: No

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition- exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well- being.

FN-105 Food Service Sanitation

(1 cr.)

Repeatable for Credit: No

Preparation for the ServSafe Food Protection Manager Certification Examination. Safe food handling practices.

FN-215 Art and Science of Food

(3 cr.)

Repeatable for Credit: No

Analysis and application of food principles applied to storage, preparation and service. Special emphasis on food safety and the art of food preparation.

Prerequisite: take HT 121

HDFS-124 Human Development: Early Childhood

(3 cr.)

Repeatable for Credit: No

Principles and theories of growth and development prenatal through pre-adolescence, with a systemic perspective on physical, motor, cognitive, language and social and emotional development. Observations required.

HDFS-215 Introduction to Families

(3 cr.)

Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Understand family science discipline and families from a **family science perspective**. Examine "family" and apply theoretical frameworks for studying families. Emphasis on internal family system functioning, intergenerational dynamics and *family as a changing unit over time*. Examine family transitions, stages, and developmental tasks over the life course.

HDFS-313 Parent Education/Involvement

(2 cr.)

Repeatable for Credit: No

Parent groups: training of leaders, survey of literature. Practicum with parent groups.

HDFS-365 Family Resource Management

(3 cr.)

Repeatable for Credit: No

Individual and family use of resources to meet needs and attain goals. Critical evaluation of resource disparities and how families are impacted. Develop approach to working with diverse families and external systems on issues of resource management.

- *Select 6-7 credits from APRL, FN, HDFS or HLTED.*

Professional Education - On Campus (44 credits)

All courses require a "C" or better

CTE-302 Principles of Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Importance of career and technical education (workforce education) to American society and the individual. Actively apply principles into practice. Formulate a philosophy of workforce education based on personally held principles and demonstrated practices.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

(2 credits required)

CTE-360 Coordination of Work-based Learning (WBL) Programs

(3 cr.)

Repeatable for Credit: No

Philosophy, planning, initiation, organization, coordination, evaluation, and teaching techniques of Cooperative Career and Technical Education (C-CTE) programs. Special emphasis on roles, responsibilities and duties of the cooperative teacher-coordinator.

CTE-440 Instructional Evaluation in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to instructional evaluation for career and technical educators. Prepares educators to design and implement performance-based assessment in diverse formats and settings that evidence student learning.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

Prerequisite(s): Benchmark I is required for MBE, FCSE, and TECED students, who much enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

(2 credits required)

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

FCSE-101 Introduction to Family and Consumer Sciences Education

(2 cr.)

Repeatable for Credit: No

Contribution of Family and Consumer Sciences to development of individuals and families; responsibilities of a Family and Consumer Sciences professional.

FCSE-201 Teaching Methods in Family and Consumer Sciences Education

2-(3 cr.)

Repeatable for Credit: No

Presentation strategies appropriate in the field family and consumer sciences education. Background check required.

FCSE-341 Prestudent Teaching in FCSE Classrooms

(1 cr.)

Repeatable for Credit: Yes

Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through family and consumer sciences education substantive areas.

Prerequisite: Benchmark I Completed

FCSE-448 Student Teaching-Family and Consumer Sciences Education

(8-16 cr.)

Repeatable for Credit: No

Student teaching practicum in K-12 settings in family & consumer sciences education/family life.

Department Consent

Prerequisites: Must have minimum GPA 2.75; take FCSE-301 and FCSE-360

(16 credits required)

FCSE-355 Seminar: Emerging Practices and Classroom Management

(3 cr.)

Repeatable for Credit: No

Issues and trends in marketing, business and family and consumer sciences education. Experiences necessary for success during student teaching and upon initial career entry. Focus on classroom management and discipline, lab management and safety, facilities design, academic standards, curriculum issues, ethical challenges and politics in the workplace, preparing for a professional role in education, innovative instructional technologies, promising practices and other education reform strategies.

FCSE-390 Family and Consumer Sciences Education Curriculum

(2 cr.)

Repeatable for Credit: No

Curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates CTE program area in Family and Consumer Sciences Education.

Prerequisite: Benchmark I completion

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building

background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

Note(s):

** must be accepted into the School of Education prior to enrollment.*

Professional Education - Distance Delivery (44 credits)

All courses require a "C" or better

CTE-302 Principles of Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Importance of career and technical education (workforce education) to American society and the individual. Actively apply principles into practice. Formulate a philosophy of workforce education based on personally held principles and demonstrated practices.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

(3 credits required)

CTE-312 Pre-Student Teaching in PK-12 CTE Subject Area

(1 cr.)

Repeatable for Credit: No

Planned experiences within PK-12 classrooms; identification and application of principles, concepts, and strategies acquired in program professional courses. Includes observation of teaching, planning for teaching, teaching, assessment of student learning, and reflection on teaching.

Prerequisite: Completion of Benchmark I

CTE-360 Coordination of Work-based Learning (WBL) Programs

(3 cr.)

Repeatable for Credit: No

Philosophy, planning, initiation, organization, coordination, evaluation, and teaching techniques of Cooperative Career and Technical Education (C-CTE) programs. Special emphasis on roles, responsibilities and duties of the cooperative teacher-coordinator.

CTE-405 Methods of Teaching Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching career and technical education.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

No prerequisite for CTET students who enroll for 2 credits.

(3 credits required)

CTE-438 Course Construction in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Focus on curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates' CTE program area. Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

(3 credits required)

CTE-440 Instructional Evaluation in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to instructional evaluation for career and technical educators. Prepares educators to design and implement performance-based assessment in diverse formats and settings that evidence student learning.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

- 2 credit option required for MBE On-Campus Delivery

Prerequisite(s): Benchmark I is required for MBE, FCSE, and TECED students, who much enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

(3 credits required)

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-415 Classroom Management

(2-3 cr.)

Repeatable for Credit: No

Technique and theory for motivating PreK-grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences.

(2 credits required)

FCSE-448 Student Teaching-Family and Consumer Sciences Education

(8-16 cr.)

Repeatable for Credit: No

Student teaching practicum in K-12 settings in family & consumer sciences education/family life.

Department Consent

Prerequisites: Must have minimum GPA 2.75; take FCSE-301 and FCSE-360

(16 credits required)

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

Note(s):

** must be accepted into the School of Education prior to enrollment.*

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/current/ugbmi.cfm.

- Pass one of the following skills tests: CORE, ACT, SAT or GRE. Test scores and test completion dates must meet required specifications as detailed on the SOE web page listed above
- Pass the required teacher background check
- Earn a grade of at least 2.00 (C) in ENGL 101 or ENGL 102 or ENGL 111 and ENGL 112
- Earn a grade of at least 2.00 (C) in COMST 100
- Earn a grade of at least 2.00 (C) in FCSE-101 Introduction to Family and Consumer Sciences Education
- Earn a grade of at least 2.00 (C) in EDUC-326 Foundations of Education
- Satisfactorily complete Benchmark I Review

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/current/ugbmii.cfm.

- Complete Application for Student Teaching form
- Maintain a 2.75 grade point average
- Pass Content Knowledge Exam (*Praxis II*) or have 3.0 GPA on Content Core classes
- Receive clearance through an updated background check
- Complete a satisfactory tuberculosis (*TB*) test
- Receive satisfactory portfolio assessment by faculty
- Receive satisfactory rating on Benchmark II Student Interview
- Submit copies of resume to the School of Education prior to student teaching
- Receive passing scores on Embedded Signature Assessments (ESA)

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/current/ugbmiii.cfm.

- Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- Complete all program coursework
- Meet all program-specific requirements
- Student teach at two levels: Middle School and High School, unless internship placement occurs
- Receive a satisfactory student teaching assessment
- Receive a satisfactory disposition review
- Submit EDTPA

Benchmark IV: WI Licensure

- For licensure students must pass the EDTPA

Food Science and Technology, B.S.

Go to [program website](#)

Food Science and Technology, B.S.: 4-year sequence

Introduction

UW-Stout's Bachelor of Science degree in Food Science and Technology prepares you for a rewarding career. Our graduates work as food technologists, food scientists, technical consultants, product development managers and research and development (R&D) directors for food manufacturers, scientific research labs and government agencies.

Our academic program incorporates principles and concepts in the physical, biological and engineering sciences, and applies them to the scientific and technological aspects of food disciplines to assure a high quality, safe and nutritious food supply, then we can help you achieve your goal. You will graduate with skills and knowledge in:

- Organic chemistry and microbiology
- Nutrition and food analysis
- Sensory evaluation
- Quality management in food processing
- Food marketing and management
- Human relations and organizational leadership

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	43 credits
Major Studies	59-62 credits
Electives, Minor or Student-designed focus area	15-18 credits

Work experience must be obtained through participation in the Field Experience program (after junior year). A 2.75 or better grade point average is required for graduation.

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

General Education (43 credits*)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Science (13 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry,

thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-156 Calculus and Analytic Geometry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Equivalent to MATH 153 and MATH 154.

Prerequisite: Math Placement Level 4 or completion of MATH-121.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

Major Studies (59-62 credits)

All courses require a "C" or better

BIO-306 General Microbiology

(4 cr.)

Repeatable for Credit: No

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or any CHEM

FN-402 Food Microbiology

(3 cr.)

Repeatable for Credit: No

Application of microbiology concepts relevant to food products; analysis for food spoilage microorganisms and foodborne pathogens based on conventional methods; molecular detection techniques; intrinsic and extrinsic parameters for food preservation.

Prerequisite: take BIO-306

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

C+ grade or higher required

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

EDUC-307 Racial and Cultural Perspectives on Applied Human Relations

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Major themes on how race and ethnicity shape personal and interpersonal relationships.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

FN-110 Food Science as a Profession

(2 cr.)

Repeatable for Credit: No

Introduction to Food Science and Technology with emphasis on current issues, competencies, career opportunities, and professional responsibilities; coursework and career planning; leadership and success skills; field visits and case studies in the food and agricultural industry.

FN-123 Science of Food

(2 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Sciences

Repeatable for Credit: No

Integrated scientific concepts in food products and ingredients; food composition and physical properties; methods, processes, and unit operations in food manufacturing.

FN-212 Nutrition

(3 cr.)

Repeatable for Credit: No

Basic principles of nutrition applied to current issues in health maintenance.

Prerequisites: take BIO-234 and CHEM-115 or higher

FN-240 Food Science

(4 cr.)

Repeatable for Credit: No

Understanding the Science of Food through physical, chemical, and microbiological changes affecting storage, processing and distribution of various food products.

Prerequisite: take CHEM-201

FN-350 Unit Operations in Food Processing

(3 cr.)

Repeatable for Credit: No

Principles, technology, and application of unit operations in food processing; laboratory and pilot-scale processing of food and agricultural commodities; quantitative measurements and analysis of unit operations.

Prerequisite: take FN-240

FN-400 Food Quality

(4 cr.)

Repeatable for Credit: No

Applications of qualitative and quantitative tools in conjunction with statistical methods to implement quality management in the food industry.

Prerequisites: Take FN-350, and take either STAT 130 or STAT-320

FN-410 Food & Nutrition Policy Regulation & Law

(3 cr.)

Repeatable for Credit: No

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review.

FN-425 Food Chemistry

(3 cr.)

Repeatable for Credit: No

Chemical structure and properties of food components, including water, carbohydrates, protein, lipids, other nutrients and food additives; chemical reactions of food components during processing, storage and utilization.

Prerequisite: take FN-240

FN-435 Food Analysis

(3 cr.)

Repeatable for Credit: No

Principles and methods in analysis of nutritive and bioactive components in food; nutrient and ingredient characterization; analytical methods in food quality and safety assurance; standard methods in the food quality control laboratory.

Prerequisite: take CHEM-315

FN-442 Basic Sensory Analysis

(3 cr.)

Repeatable for Credit: No

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/ acceptance tests.

Appropriate for all majors who produce products for/or merchandise to consumers.

Prerequisite: FN-124 or FN-240

FN-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences.

Department Consent

FN-450 Food Engineering

(3 cr.)

Repeatable for Credit: No

Application of pertinent chemistry, physics and mathematics principles to food processing.

Prerequisites: take MATH-153, or MATH 156 , PHYS 211 and FN-350

FN-465 Food Product Development

(3 cr.)

Repeatable for Credit: No

Food ingredient properties; integrated application of professional competencies for food product development.

Prerequisite: take FN-350

PHYS-211 Introduction to Physics

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies.

Electives, Minor or Student-Designed Focus Area (15-18 credits)

Courses must be approved by adviser. Elective credits may be used to satisfy MATH and/or CHEM prerequisite requirements.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Course Selective-4 :

Choose a selective to fulfill credit requirements.

Course Selective-5 :

Choose a selective to fulfill credit requirements.

Game Design and Development-Art, B.F.A.

Go to [program website](#)

Game Design and Development-Art, B.F.A.: [4-year sequence](#)

Introduction

The Bachelor of Fine Arts (BFA) in Game Design and Development-Art prepares students to apply knowledge, techniques and methods necessary to become a successful artist and game designer. The student will have a balance of art, design, game design, art history, computer science, English, and psychology to help them become a vital part of the game design and development industry upon graduation. The industry has shown a steady increase in need for more game developers (which includes artists, designers, and programmers) over the last 10 years. The increase in jobs will continue.

The BFA in Game Design and Development provides outstanding opportunities to create art and games for a vast array of applications and industries, including entertainment, advertising, simulation and education. Students will develop a strong foundation from an award-winning art and design program while experiencing a hands-on approach to education that uses industry standard software and hardware. Collaboration is the backbone of the major with multiple courses bringing art and computer science students together to form interdisciplinary teams. BFA students will learn and use skills necessary for game development such as game design principles, foundations in drawing and design, 2D pixel art and animation, 3D modeling and animation, concept art in environment and character design, and graphic and user interface design.

A required mid-program portfolio review offers game design students an assessment of their progress in foundation art and design courses. A 2.5 grade point average and a 2.0 or better in art and design department (ART/DES/ARTH) and game design courses (GDD) is required to complete this Bachelor of Fine Arts degree. Game Design students must present a portfolio of their work in the final semester as part of a public exhibition hosted by the School of Art and Design. The BFA in Game Design program provides a specialized education and is accredited by the National Association for Schools of Art and Design.

Program Requirements

Total for Graduation	120 credits
General Education	40 credits
Major Requirements	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10-11 credits)

At least one math or statistics course and one natural science course with a lab is required

CS-141 Introduction to Programming

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Solving problems using computer programming. Input/output, user interface, objects, events, flow of control, functions, arrays.

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Remaining course must be from areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

PSYC-225 Psychology of Video Games

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychological aspects and impacts of video games. Theoretical factors of cognitive, learning, motivation, development, personality, social, and clinical psychology will be examined in relation to the experience and outcomes resulting from game play.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (2-3 credits)

Course may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Requirements (80 credits)

Game Design Core (20 credits)

GDD-100 Introduction to Game Design

(4 cr.)

Repeatable for Credit: No

Principles of video and computer game design and development. Students design and develop games, analyze a popular game, and

learn about various aspects of the game industry. Game design, story development, visual art production and programming.

GDD-200 Video Game Development

(4 cr.)

Repeatable for Credit: No

The course introduces principles of video game development. Students design and develop a video game, implementing a development pipeline using visual art production, programming, and game development management techniques and tools.

Prerequisite(s): take GDD 100 and either CS 145 or DES 220

GDD-325 Two Dimensional Game Design and Development

(4 cr.)

Repeatable for Credit: No

Design and develop two-dimensional games from concept to completion in teams. Production environment will be set up to reflect the approach used in the game development industry.

Prerequisites: take GDD 200 and either CS-244 or DES-220

GDD-450 Game Design and Development Capstone I

(4 cr.)

Repeatable for Credit: No

Design and development of 3D games from concept to prototype in teams, modeling the approach used in the game development industry. The first of a two-semester sequence to be followed by GDD-451.

Prerequisites: Take GDD-325 and one of the following:

1) *completion of both CS 326 and CS 358 ; or*

2) *completion of DES 350*

GDD-451 Game Design and Development Capstone II

(4 cr.)

Repeatable for Credit: No

Design and development of 3D games from concept to prototype in teams, modeling the approach used in the game development industry. Second of two-semester sequence; to be preceded by GDD-450.

Prerequisite: take GDD-450

Studio Requirements (38 credits)

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

DES-176 Introduction to Digital Narrative

(3 cr.)

Repeatable for Credit: No

Visual storytelling and time-based foundations (4D) for animation, digital cinema, comics, game design, transmedia design and other time-based forms. Emphasis on ideation through writing, storyboarding and concept illustration. Introduction to the field of entertainment design.

DES-205 Design Drawing and Concept Visualization

(3 cr.)

Repeatable for Credit: No

Comprehensive education and training in developing, visualizing, and communicating design ideas through drawing.

Prerequisites: take ART-200 with a grade of C or better

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

DES-225 Pixel and Vector Art

(3 cr.)

Repeatable for Credit: No

Investigation into ways digital 2D art, through using both pixel and vector applications, can be incorporated into the game medium through concept art and in-game art assets.

Prerequisites: take DES 220 with a grade of C or better

DES-310 Graphic Design I

(3 cr.)

Repeatable for Credit: No

Exploration of the formal qualities of creating effective and informative design. Foundational design elements including line, shape, form and texture; compositional principle concepts of balance, contrast, grid structures and hierarchy.

Prerequisites: take ART-101 or DES-210, each with a grade of C or better

DES-350 3D Game Art and Engines

(3 cr.)

Repeatable for Credit: No

Investigation into ways 3D modeling, animation and texturing can be incorporated into interactive experiences using industry standard 3D game engines and emergent technology for user interaction.

Prerequisite: take DES 372 with a grade of C or better or instructor consent

DES-372 3D Modeling and Animation I

(3 cr.)

Repeatable for Credit: No

Introduction to 3D digital modeling, animation, texturing, lighting, and rendering techniques. Using digital design elements and visual aesthetics, students create 3D digital imagery and animations.

Prerequisites: take ART-103 & DES-220, each with a grade of C or better

DES-390 Professional Practices in Design

(2 cr.)

Repeatable for Credit: No

Professional Practices in Design. Practices and portfolio seminar for all Design students. Students develop promotional materials, discuss related business strategies and legal issues, and establish short and long term career goals.

Prerequisites: Successful completion of mid program review (instructor approval for graduate students).

Studio Selectives (12 credits)

Art Studio Selectives (3 credits)

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-211 Contemporary Sculptural Practices I

(3 cr.)

Repeatable for Credit: No

Introduction to sculptural concepts.

Prerequisite: take ART-103 with a grade of "C" or better

ART-213 Ceramics I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

ART-300 Drawing III

(3 cr.)

Repeatable for Credit: Yes

Advanced drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: take ART-200 with a grade of C or better

ART-375 Art Photography Studio

(3 cr.)

Repeatable for Credit: Yes

Studio art photographic techniques and methodologies. Emphasis on media exploration and image creation for expressive and critically driven work. A repeatable class.

No

Prerequisite: Take PHOTO 130, DES 220, and ART 100.

ART-401 Life Drawing II

(3 cr.)

Repeatable for Credit: No

Continued drawing and analysis of the structure of the human figure.

Prerequisite: take ART-301 with a grade of C or better

Design Studio Selectives (6 credits)

DES-200 Design Concepts and Problems

(3 cr.)

Repeatable for Credit: No

Comprehensive understanding of the processes, techniques, and concepts used by designers to arrive at innovative and successful design solutions.

Prerequisites: take ART-101 and ART 103, each with a grade of C or better

DES-210 Typography I: Letterform

(3 cr.)

Repeatable for Credit: No

Design of letterforms, figures, and visual symbols; history and development of type.

Prerequisites: take ART-100 with a grade of C or better

DES-222 Board Game Production & Processes

(3 cr.)

Repeatable for Credit: No

Learn in a real-world design studio environment in the board game industry. Practice procedural design by managing projects, resources, timelines, and budgets. Gain hands-on experience with the production process by following the life cycle of board games developed in class. Speak directly with industry experts and discuss trending topics.

Prerequisite: take GDD 100 and DES 220 or Instructor Approval

DES-321 Digital Imagery Studio

(3 cr.)

Repeatable for Credit: Yes

A studio workshop experience in digital painting, photo illustration and image compositing using digital tools. Advanced topics and projects rotate.

Prerequisites: take ART-200, DES-205 & DES-220, each with a grade of C or better

DES-325 Introduction to Web Design

(3 cr.)

Repeatable for Credit: No

Processes and concepts involved in the design and development of Web sites.

Prerequisites: take DES 310 with a grade of C or better

DES-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

DES-360 Graphic Design II

(3 cr.)

Repeatable for Credit: No

Social responsibility, business and ethical factors affecting visual communication are investigated while deepening sensitivity and experience in graphic design. Deeper, broader understanding of how to create meaning and utilize problem-solving methodologies to develop work that is compelling, informative, and meaningful.

Prerequisites: take DES-310 and DES-220, each with a grade of C or better

DES-361 Transmedia Studio

(3 cr.)

Repeatable for Credit: Yes

Application of advanced physical and digital ideation and production tools in support of interdisciplinary project development and realization. Emphasis on conceptual development, aesthetics and opportunities for industry partnership and/or public dissemination. Students work individually and in teams; topics and projects rotate each semester.

Prerequisites: take ART 307 or DES 232 or DES 304 or DES 360 or DES 370 or DES 372 or DES 375 or DES 378 or DES 379 or instructor consent.

DES-371 Interactive Media Design

(3 cr.)

Repeatable for Credit: Yes

Design and development of interactive media compositions.

Prerequisites: DES 325 w/ a grade of C or better and DES 360 w/ a grade of C or better and CS 141 , OR take DES 360 w/ a grade of C or better and DES 325 w/ a grade of A, OR take DES 325 w/ a grade of C or better and DES 225 w/ a grade of C or better and CS 141

DES-373 3D Modeling - Hard Surface

(3 cr.)

Repeatable for Credit: Yes

Intermediate design studio course focused on developing 3D hard surface models, textures and environment lighting. Creation of robust digital imagery and animations using rendering and visual aesthetics.

Prerequisite: take DES 372 with a grade of C or better

DES-374 3D Modeling - Organics

(3 cr.)

Repeatable for Credit: No

Intermediate design studio course focused on developing 3D organic models and textures. Creation of robust digital imagery and animations using rendering and visual aesthetics.

Prerequisites: take DES-372 with a grade of C or better

DES-378 Animation Studio

(3 cr.)

Repeatable for Credit: Yes

Animation techniques, topics and projects. Course provides an introduction to 2D and s-motion animation techniques. Advanced students work individually and in teams to produce and critically examine self-directed projects. Specific topics and projects rotate each semester.

Prerequisites: take DES-176 and DES-220, each with a grade of C or better

DES-405 Advanced Design Drawing

(3 cr.)

Repeatable for Credit: No

In-depth study of illustration and presentation styles within various design contexts. Development of drawing skills in traditional and digital media, emphasizing perspective, form, and texture. Emphasis on rapid freehand, conceptual drawing as a means to imagine and develop design concepts.

Prerequisites: take DES 205 ; MFAiD students need Program Director approval

DES-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Selectives (3 credits)

Choose three remaining credits from the list of Studio Selectives.

Art and Design History Requirements (9 credits)

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-340 History of Interactive Media

(3 cr.)

Repeatable for Credit: No

Survey of historical developments leading to, and in the design of, video games, the Internet, and related media. Must be in a BFA major, Art Ed or GDD major

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Additional Requirements (1 credit)

PE-103 Archery/Beginning

(1 cr.)

Repeatable for Credit: No

Basic target archery shooting skills including tournament target archery, equipment selection and care, safe shooting behaviors. A special course fee applies.

PE-105 Bow Hunting

(1 cr.)

Repeatable for Credit: No

Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience. A special course fee applies.

PE-107 Badminton

(1 cr.)

Repeatable for Credit: No

Emphasis on fundamental skills, terminology, rules, singles and doubles play for the game of badminton.

PE-109 Basketball

(1 cr.)

Repeatable for Credit: Yes

PE-110 Bicycling

(1 cr.)

Repeatable for Credit: No

Bicycling for health and fitness: safety, technique, and knowledge.

PE-113 Bowling

(1 cr.)

Repeatable for Credit: No

A special course fee applies.

PE-115 Canoe Techniques

(1 cr.)

Repeatable for Credit: No

Introduction to the skill of canoeing, including stroke techniques, water hydrology, equipment and safety.

PE-125 Fly Fishing

(1 cr.)

Repeatable for Credit: No

Fly tying, casting techniques, literature, stream craft, equipment considerations, conservation ethics and natural resources stewardship.

PE-129 Golf

(1 cr.)

Repeatable for Credit: No

Fundamental principles of golf; skills, history, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish 3 golf balls for class use. A special course fee applies.

PE-136 Ice Fishing

(1 cr.)

Repeatable for Credit: No

An introduction to the sport of ice fishing.

PE-142 Outdoor Skills

(1 cr.)

Repeatable for Credit: No

Introduction to the knowledge and skills of camping, outdoor skills, and backpacking. A special course fee applies.

PE-143 Rock Climbing

(1 cr.)

Repeatable for Credit: No

Rock climbing as a recreational sport.

PE-144 Personal Defense

(1 cr.)

Repeatable for Credit: No

Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks.

PE-146 Racquetball/Beginning

(1 cr.)

Repeatable for Credit: No
Introduction to the fundamental skills, terminology, and rules for racquetball.

PE-150 Snowboarding

(1 cr.)
Repeatable for Credit: No
An introduction to the skills and safety aspects basic to snowboarding.

PE-152 Skiing

(1 cr.)
Repeatable for Credit: No
An introduction to the skills and safety aspects basic to the lifetime sport of downhill skiing.
Department Consent

PE-154 Fishing

(1 cr.)
Repeatable for Credit: No
History, terminology, regulations, equipment and techniques involved in the recreational activity of fishing.

PE-155 Introduction to Curling

(1 cr.)
Repeatable for Credit: No
Definition and application of curling terminology, history, etiquette, technique and strategy. Curling's interrelationship with mental and physical wellness, and professional opportunities. A special course fee applies.

PE-156 Soccer

(1 cr.)
Repeatable for Credit: No
The development and improvement of the skills and tactics required in the sport of soccer.

PE-159 Softball

(1 cr.)
Repeatable for Credit: No
The development and improvement of the skills required in the sport of softball.

PE-173 Skin and Scuba Diving

(1 cr.)

Repeatable for Credit: No

Introduction to the principles and skill techniques of skin and scuba diving.

PE-176 Tennis/Beginning

(1 cr.)

Repeatable for Credit: No

Emphasis on fundamental skills, terminology, rules, singles and doubles play for the game of tennis.

PE-182 Tumbling I

(1 cr.)

Repeatable for Credit: No

An introduction to basic tumbling skills, including forward, backward, and sideward rotational skills as well as springing and vaulting movements from the hands and feet.

PE-185 Volleyball

(1 cr.)

Repeatable for Credit: Yes

The application of techniques and rules of the game of volleyball.

Golf Enterprise Management, B.S.

Go to [program website](#)

Golf Enterprise Management, B.S.: 4-year sequence

Introduction

The B.S. in Golf Enterprise Management program provides a comprehensive and challenging academic experience that will prepare graduates who are leaders in the golf business profession. The program will offer a broad exposure to all facets of the business of golf industry through its interdisciplinary curriculum. The program includes exposure to golf industry best practices. Students are immersed in experiential learning through well-defined co-ops and internships.

Upon graduation, students will be able to analyze major trends in the golf industry, including tourism, consumer interests, course ownership and management, and golf retail businesses. Graduates will be able to distinguish the missions of principal national and international associations in the golf industry; understand golf facility operations from perspectives of resort, private, municipal, and daily fees courses; apply business, accounting, and marketing principles to meet management needs of golf enterprises; develop and apply strategies for attracting new customers and retaining existing customers of golf operations; apply the principles of turf management, soil science and environmental science to the layout, design and management of golf courses; and integrate the knowledge and skills obtained in the curriculum through practical experiences in the golf industry.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Studies	64 credits
Program Selectives	16 credits

Program Requirements

General Education (40 credits)

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Remaining course must be Biology with a lab from the approved course list.

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Select remaining credits from the approved course list in another area including anthropology, geography, political science, psychology and sociology.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses/credits must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Studies (64 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

PM-362 Real Estate Market Analysis and Investment Analysis

(3 cr.)

Repeatable for Credit: No

Analytical tools used for decision making by property managers and the stakeholders they serve. Market and investment analysis and role in providing a financial perspective for the property manager and owner.

Prerequisite: take BUACT-207

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

HT-457 Hospitality Management Strategies

(3 cr.)

Repeatable for Credit: No

Comparison and synthesis of hospitality management strategies; concepts and theories in relationship to long-term hospitality business goals and objectives. Capstone course for senior-level H&T students.

Prerequisite: Must be Senior level and take HT-362

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

HT-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

GEM-101 Introduction to Golf Enterprise Management

(2 cr.)

Repeatable for Credit: No

Overview of the B.S. in Golf Enterprise Management, the golf industry, national and international golf associations, and careers in the golf industry.

GEM-201 Principles of Golf Enterprise Management

(3 cr.)

Repeatable for Credit: No

Comprehensive survey of golf facility operations and management from perspectives of resort, private, semi-private, and daily fee

courses, to include principles of business, customer service, human resource management, course design and management, retail and back shop operations, food and beverage management, and event planning.

GEM-224 Fitting and Swing Analysis

(4 cr.)

Repeatable for Credit: No

Introduction to technical applications in equipment design, player personalized fitting and play analysis. Club fitting, repair or club equipment, swing analysis, play design and evaluation in a lab or golf course setting will be presented.

Prerequisites: take GEM 101 and GEM 201

GEM-250 Turfgrass Management for Golf Courses

(3 cr.)

Repeatable for Credit: No

Investigates the broad subject of turfgrass management. Emphasis is placed on the application of basic turfgrass principles to golf course turfgrass culture.

Prerequisite: take GEM-101

GEM-277 Software and Technology

(3 cr.)

Repeatable for Credit: No

Investigates the use of software and technology in the golf industry. Marketing, revenue planning, tee time management, point of sale, guest and staff scheduling and performance evaluation will be analyzed using proprietary industry software.

Prerequisite: take GEM-101

GEM-301 Customer Development, Retention and Marketing

(3 cr.)

Repeatable for Credit: No

Current trends and programs for golf course customer recruiting and retention, marketing strategies, conducting and applying market research including database and internet marketing for golf course customer development and retention in public fee, semi-private, private and resort facilities.

Prerequisites: take GEM-101 and GEM-201, and take either BUMKG-330 or HT-344

GEM-211 Customer Experience Management

(3 cr.)

Repeatable for Credit: No

Principles associated with managing the customer experience, satisfaction, and the employee engagement process. Focus on blend of technology, people and information needed to achieve a distinctive competitive advantage.

GEM-325 Golf Shop Merchandising

(3 cr.)

Repeatable for Credit: No

Specialized study of golf shop merchandising operations, including purchasing of soft goods and golf equipment, visual presentation, inventory, and financial reporting.

Must be Sophomore level or higher

GEM-445 Sports Event Management

(3 cr.)

Repeatable for Credit: No

Planning, organization and the management of events will be investigated for the hospitality, tourism and golf industries. Emphasis is placed on the design, internal management systems and post-event evaluation.

Must be Sophomore level or higher

GEM-450 Environmental Golf Course Management

(3 cr.)

Repeatable for Credit: No

Emphasizes the applied knowledge related to golf course operations and environmental perspective towards effective management.

Prerequisite: take GEM-250

- GEM-X49 Co-op or Field Experience (*Two co-ops or field experiences are required*) (4.00 cr.)
- HT-2XX Hospitality Managerial Cost Accounting

HT-352 Club Management

(3 cr.)

Repeatable for Credit: No

Managing a membership, city, health and fitness, military, golf, or other social or recreation club.

Must be Junior level or higher

HT-460 Hospitality Industry Law and Liability

(3 cr.)

Repeatable for Credit: No

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

PM-280 Hospitality Facilities Management

(3 cr.)

Repeatable for Credit: No

Applied perspectives on responsible and efficient management of physical plant and equipment demands to achieve maximum guest and tenant satisfaction at acceptable operating costs.

Must be Sophomore level or higher

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

HT-461 Hospitality Employee Relations

(3 cr.)

Repeatable for Credit: No

History and legal strategies and tactics in dealing with hospitality employees in both union and non-union settings.

Program Selectives (16 credits)

Any GEM, HT, PM, SRVM, or Business course: 3XX or 4XX level or recommended courses listed below.

Recommended:

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

GEM-350 Golf Course Soils, Layout, and Design

(3 cr.)

Repeatable for Credit: No

Introduction to golf course layout and design, including soil characteristics that affect successful turf grass establishment and maintenance. topics include soil components, physical and chemical soil properties, drainage, irrigation, golf course layout, design and construction, and risk assessment.

Prerequisites: take GEM-101 and GEM-201

HT-330 Resort Planning and Operation

(3 cr.)

Repeatable for Credit: No

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management.

HT-383 Yield Management

(3 cr.)

Repeatable for Credit: No

Investigation of the use of computer technology in the lodging industry for revenue planning, scheduling and performance evaluation. Specialized software will be used to analyze and evaluate hotel performance.

Prerequisites: take HT 235 , HT-200 and STAT 130

Graphic Communications, B.S.

Go to [program website](#)

Graphic Communications, B.S.: 4-year sequence

Introduction

Graphic Communications is the industry that creates, develops, produces and distributes both print and digital products or services incorporating words and images to inform, market and promote. Once called Graphic Arts, the field has grown to include design, photography, printing, publishing, packaging, digital imaging, and digital media. Graphic Communications is one of the largest manufacturing industries in the United States, with thousands of companies employing nearly a million people in a variety of challenging technical, creative, and professional occupations. UW-Stout's Bachelor of Science Degree program in Graphic Communications prepares graduates to be professional leaders, managers and innovators who can deal with graphics workflows, business issues and production efficiency as well as design, imaging processes and graphics-reproduction technology.

The major covers all phases of the graphics process and prepares graduates for a wide variety of positions across the entire industry. Through intensive hands-on learning experiences in a laboratory environment, the program addresses the skills and understanding necessary for student success in the global media marketplace. A strong emphasis is placed on the application of theory and laboratory experience to solve real-world problems. This program prepares leaders to respond aggressively to the needs of the marketplace; to apply research and theory to the development of marketable media products and services using efficient processes; and to lead in the development of projects with an awareness of the realities of the manufacturing process, cost, environment and needs of the customer and society. The technology utilized by students includes software, equipment and workflow systems that produce print and digital media products for publishing, packaging, display and signage, marketing and promotion, and other markets. The growth area of omni-channel, cross-media marketing and promotion is emphasized in the program. Cross-media campaigns often include printed direct mail, email blasts, response web microsites, social media integration and may utilize mobile technology to trigger related online content. These projects are often data-driven to produce personalized content for each recipient, making them more relevant and effective.

Graphic Communications students complete an industrial work experience (co-op) from three to eight months in length to gain practical experience before they graduate, bridging the gap from the academic classrooms and laboratories of the university to the world of work.

A related professional student organization complements the classroom and laboratory experiences encountered by Graphic Communications students. The Stout Typographical Society (STS) runs a graphics-production business-designing and printing projects for the campus and community. Members apply what they've learned in the classroom to produce real projects and to develop leadership skills by managing club operations. Each spring STS members take a three-day field trip to visit graphics companies in the region, to observe a wide variety of operations and to network with industry professionals.

The variety of opportunities in Graphic Communications is attractive to many students. Those interested in art and design, graphics software, business, marketing, technology, graphic arts and communication are encouraged to explore this major. UW-Stout's Graphic Communications graduates are in high demand due to the broad scope of the program-all aspects of graphics, from design to delivery.

The Bachelor of Science degree program in Graphic Communications is accredited by the Accrediting Council for Collegiate Graphic Communications (ACCGC), an independent body dedicated to the improvement and recognition of collegiate-level curricula in graphic communication.

General Requirements Bachelor of Science Degree

Total for graduation	120
General Education	40
Major Studies	68
Selectives	12

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 Credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

MATH-121 Introductory College Mathematics II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two-dimensional analytic geometry.

Prerequisite: Math Placement Level 3 or completion of MATH-120

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 Credits)

Remaining course must be from areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Choose 3 credits from:

Course Selective-1 :

Choose a selective to fulfill credit requirements.

PHOTO-110 Mobile Device Photography: Visual Literacy and Image Narrative

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to visual literacy through still and moving image photography, utilizing mobile devices. Narrative, cinematic, and photographic theory with an emphasis on developing analytic and conceptual skills. Concepts, processes and techniques applicable to many disciplines. A student-provided mobile device (smartphone) with still photographic and video capabilities is required for the course.

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 Credits)

Remaining courses must be from one or more areas including anthropology, geography, political science, psychology and sociology.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (68 credits)

Professional (35 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BUMKG-370 Integrated Marketing Communications

(3 cr.)

Repeatable for Credit: No

Fundamentals of integrated marketing communications; integration of elements of the promotional mix, including advertising, sales promotions, public relations, online marketing, social media and other modern methods of marketing communication.

Prerequisites: take BUMKG-330

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

GCOM-295 Graphic Communications Professional Practices

(3 cr.)

Repeatable for Credit: No

The graphic communications industry; market segments, organizations, and professional practices. Personal goal setting for professional skills and career planning specific to the industry. Research and analysis of industry trends, issues, and forecasts of print

and non-print technologies, global issues, and allied communication channels. Academic and workplace language proficiency.
Prerequisite: Must be Sophomore level or higher

GCOM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

(2 credits required)

INMGT-200 Production and Operations Management

(3 cr.)

Repeatable for Credit: No

A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.

Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

(3 credits required)

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

Graphics Technology (33 credits)

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

GCOM-151 Graphics Software Tools

(3 cr.)

Repeatable for Credit: No

Graphics software tools and processes for production/development of print and non-print graphics projects. Software features and application, image capture/creation, page layout, and web development for multiple media workflows.

GCOM-251 Premedia Graphics Production

(3 cr.)

Repeatable for Credit: No

Optimization of digital creation, capture and manipulation of graphics for print and digital distribution. Premedia systems, workflow, color theory, digital photo, bitmap and vector graphic creation and editing. File and font management, document layout, automation, proofing, preflight and submission of files for output.

Prerequisite: take either GCOM-151 or DES-220

GCOM-260 Graphic Communications Production Systems

(3 cr.)

Repeatable for Credit: No

Current and emerging technologies for production systems that included postpress operations. Production and job planning from a process and systems examination for needs in the graphic communications field. Quality control tools and techniques as applied for image carriers, press systems, process control, ink, toners, and substrates

Prerequisite: take GCOM 141

GCOM-340 Graphic Communications Color and Quality

(3 cr.)

Repeatable for Credit: No

Research and application of industry standards and specifications of color management practices for accurate color reproduction throughout both RGB and CMYK workflows. Colorimetric and densitometric analysis and profiling strategies. Color management applications, devices and best practices for controlling image capture, image display, electronic publishing, soft proofing and printing.

Prerequisite: take GCOM 251

GCOM-351 Cross-Media Campaigns

(3 cr.)

Repeatable for Credit: No

Software, systems and processes used to plan and produce personalized and integrated cross-media (Web, print, e-mail, mobile, PDF, eBook, and other digital media) marketing/promotion campaigns. Databases, layout issues, dynamic content (text, images, charts and graphs), scripting, automation, variable data digital printing and personalization, design platforms and web storefront interaction.

Prerequisites: take GCOM-251

GCOM-440 Graphic Communications Workflow, Automation and Costing

(3 cr.)

Repeatable for Credit: No

Examination of print and graphics production environments, workflows and costing approaches. Production planning, estimating costs, optimized workflow approaches, automation, streamlining alternatives and scheduling.

Prerequisite: junior standing

GCOM-443 Graphic Communications Practicum

(3 cr.)

Repeatable for Credit: Yes

Integration of all Graphic Communications processes in the design and production of print and non-print graphic products and services for clients in the university community. Special emphasis on the process and workflow management roles of estimating, customer service, scheduling, planning, production supervision and quality control.

Prerequisites: Junior Level

ICT-255 Basic Data Concepts

(3 cr.)

Repeatable for Credit: No

Database application exploration in an enterprise context with basic data concepts, principles and guidelines of relational database design, common entity relationships, basic queries, and security and data integrity.

PKG-150 Packaging Fundamentals

(3 cr.)

Repeatable for Credit: No

Explore the purpose of packaging materials and manufacturing methods, including global perspectives, history, environment, market and consumer needs.

Selectives (12 credits)

Select 12 credits from the list or other courses approved by the program director.

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of

goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

BUMKG-334 Professional Selling and Market Development

(3 cr.)

Repeatable for Credit: No

Overview of selling as a profession; building relationships; the selling process, including prospecting, preparing, presenting, handling objections, closing, and servicing accounts; developing markets; and territory management.

Prerequisites: take BUMKG-330

BUMKG-335 Sales Management

(3 cr.)

Repeatable for Credit: No

Comprehensive survey of sales force management; organizing, staffing, and training a sales force; directing sales force operations; sales planning; and evaluating sales performance.

Prerequisite: take BUMKG-334

BUMKG-350 Digital Marketing Strategy and Practice

(3 cr.)

Repeatable for Credit: No

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans.

BUMKG-385 Target Marketing

(3 cr.)

Repeatable for Credit: No

The study and application of methods used to identify viable market segments; use of demographic, psychographic and cultural research findings to successfully market products and services to various market segments.

Prerequisites: take BUMKG-330

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

BUMKG-436 Marketing Management

(3 cr.)

Repeatable for Credit: No

Comprehensive exploration and practical application of marketing activities used to create customer value and marketplace exchanges benefiting the organization and its stakeholders; planning and execution of conception, pricing, promotion, and distribution of ideas, goods, and/or services for an enterprise.

Prerequisites: take BUMKG-330 and BUACT-207

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330

BUSCM-341 Global Supply Chain Modeling and Optimization

(1 cr.)

Repeatable for Credit: No

Introduction to problem solving and design techniques used to ensure the optimal operation of the supply chain, considering the relative changes to variables and the impact on overall costs. Advanced spreadsheet toolsets will enable the supply chain problem-solving and design techniques.

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

BUSCM-458 Negotiation and Contracts

(3 cr.)

Repeatable for Credit: No

Processes, analysis, techniques and strategies used to negotiate and develop contracts. Defining roles and importance of relationships. Identifying interests, developing and using power, creating and evaluating criteria, exploring options, analyzing offers, dealing with objections and impasses, reaching final agreement. Converting business agreements into contracts. Importance of fairness and ethics.

Prerequisite: take BUSCM 437

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

COMST-200 Persuasive Speaking

(3 cr.)

Communication Skills

Repeatable for Credit: No

Advanced techniques of speaking; develop persuasion skills in personal, professional and public contexts.

Prerequisite: take COMST-100

COMST-210 Interpersonal Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical and applied approaches to communication in interpersonal relationships. Communication variables and competencies for social interaction in personal and professional contexts.

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

DES-210 Typography I: Letterform

(3 cr.)

Repeatable for Credit: No

Design of letterforms, figures, and visual symbols; history and development of type.

Prerequisites: take ART-100 with a grade of C or better

DES-260 Typography II:

(3 cr.)

Introduction to complex typographic systems with a focus on functional aspects of hierarchy, navigation, and user-centered information design. Practical application of compositional grids to print and online media.

No

Prerequisite: take DES 210 with a grade of C or better

DES-310 Graphic Design I

(3 cr.)

Repeatable for Credit: No

Exploration of the formal qualities of creating effective and informative design. Foundational design elements including line, shape,

form and texture; compositional principle concepts of balance, contrast, grid structures and hierarchy.
Prerequisites: take ART-101 or DES-210, each with a grade of C or better

DES-360 Graphic Design II

(3 cr.)

Repeatable for Credit: No

Social responsibility, business and ethical factors affecting visual communication are investigated while deepening sensitivity and experience in graphic design. Deeper, broader understanding of how to create meaning and utilize problem-solving methodologies to develop work that is compelling, informative, and meaningful.

Prerequisites: take DES-310 and DES-220, each with a grade of C or better

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

DMT-485 Search Engine Optimization

(3 cr.)

Repeatable for Credit: No

Contemporary application of strategies and technology related to the improvement of placement in search engine and other relevant search results.

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

ENGL-125 Professional Writing Elements of Style

(3 cr.)

Repeatable for Credit: No

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisite: take either ENGL 101 or ENGL 111

ENGL-207 Writing for the Media

(3 cr.)

Repeatable for Credit: No

Theory and practice of writing for the media.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-225 Editing Processes and Practices

(3 cr.)

Repeatable for Credit: No

Comprehensive editing, copy editing, proofreading, and style selection; review of Standard Written English grammar and usage.

Prerequisites: take ENGL-102 or ENGL-112 or ENGL-113; and take ENGL-125

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance.

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-260 Electrical Circuits

(3 cr.)

Repeatable for Credit: No

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take ET 204, MATH 153 and either PHYS 242 or PHYS 282

ET-272 Solid State Electronics

(3 cr.)

Repeatable for Credit: No

Basic semiconductor theory dealing with signals, operational amplifiers, diodes, bipolar junction and field effect transistor, frequency response, feedback, and circuit analysis.

Prerequisite: take ET 260

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

ETECH-110 Materials and Manufacturing Processes

(3 cr.)

Repeatable for Credit: No

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-150 Introduction to Engineering Materials

(3 cr.)

Repeatable for Credit: No

Exposure to engineering materials, their properties, and behavior. topics will include: material types, testing, mechanical properties, heat treatment, and material selection. Students are expected to have had H.S. chemistry.

Math Placement $\geq$ MATH-120, or MATH-150

GCOM-300 Special Topic: A Study of Advanced Color Media Applications

(3 cr.)

Repeatable for Credit: Yes

Understanding and solving color-related issues for brands. Color consistency, communication, and accuracy from creation, to production, to market. Controlling the brand across various media, including print, video and web.

Prerequisite: Instructor consent

GCOM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Prerequisite: take GCOM 295

GCOM-362 Screen and Specialty Printing

(3 cr.)

Repeatable for Credit: No

Screen, and other specialty printing on a variety of substrates. Wide format, three-dimensional, lenticular, cut vinyl graphics, dye sublimation, pad printing, laser marking/engraving, issues and process-control concerns unique to these image transfer methods.

Special course fee applies.

Prerequisite: take GCOM-141

GCOM-445 Publication Production

(3 cr.)

Repeatable for Credit: No

Cross-discipline work teams experience integration of creative, technical and managerial skills to design, plan, schedule, produce and distribute print and digital versions of a publication.

Prerequisite: take GCOM 351

GCOM-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

- GCOM-XXX *Graphics Electives*

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-416 People Process Culture

(3 cr.)

Repeatable for Credit: No

High performing people process culture organizations; integration of sociology, applied psychology, and organization behavior subject matter areas.

Prerequisite: take INMGT 400

INMGT-430 Employee Involvement: Work Teams

(2 cr.)

Repeatable for Credit: No

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods.

Must be Senior level or higher

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

INMGT-475 Advanced Project Management

(3 cr.)

Repeatable for Credit: No

Advanced planning, control, and leadership of technical projects and programs. Topics covered include: project and program justification, project management maturity and methods, multiple project or portfolio management, project management in multinational cultures, virtual project teams, requirements definition, and outsourcing.

Prerequisites: take INMGT-365 or AEC-471. Senior standing.

PHOTO-310 Introduction to Photographic Lighting

(3 cr.)

Repeatable for Credit: No

Introduction to the essential concepts of lighting for still and moving image photography. Emphasis is on the application and control of natural and artificial light in studio and location photography. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisite: take PHOTO 130

PHOTO-330 Video Production

(3 cr.)

Repeatable for Credit: No

Introduction to essential concepts and techniques of video production. Emphasis is placed on preproduction and preparation for production, writing proposals and treatments, story-boarding and developing a workflow appropriate to the project. Students develop camera operation, audio, lighting, directing, producing and editing skills. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO 130 and a DSLR camera with full manual controls in still and video capture modes is required.

PHOTO-375 Product Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products. Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required. A special course fee applies.

Prerequisite: take PHOTO 310 and PHOTO 330 . A DSLR camera with full manual control in still and video capture modes is required.

PHOTO-411 Photojournalism and Documentary Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of photojournalism and documentary photography trends and practices. The importance of still and moving images as conveyors of information and influence on public opinion is emphasized. Ethical and moral considerations, freedom of the press and the public's right to know are stressed. A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products. Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-412 Nature and Landscape Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of nature and landscape, still and moving image photography trends and practices. Emphasis on the application of appropriate techniques and equipment for field conditions. A special course fee applies. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-415 Advertising Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image advertising photography trends and practices. The relationship between marketing, design and photography in communicating with target audiences through cross-channel media are stressed. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Prerequisite: take PHOTO-375

PHOTO-421 Architectural and Interior Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of architectural and interior still and moving image photography trends and practices. Emphasis on the application of appropriate techniques and equipment for field/location conditions. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-425 Corporate Communications and Public Relations Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of corporate communications and public relations, still and moving image photography trends and practices. The relationship between marketing, corporate communications and public relations photography in influencing target audience opinion through cross-channel media are stressed. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-441 Fashion and Glamour Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of fashion and glamour still and moving image photography trends and practices. Emphasis on directing professional/non-professional talent/models and creative support and the importance of concept and design in creating effective images. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Prerequisites: take PHOTO-310 and PHOTO-330

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal

(3 cr.)

Repeatable for Credit: No

Technical exploration of paper, wood, adhesives and metal used in packaging worldwide. Material properties and international production processes, applications, environmental impacts of paper, wood, adhesives, and metal.

Prerequisites: take PKG-150 and CHEM-135

PKG-220 Packaging Materials: Polymers and Glass

(3 cr.)

Repeatable for Credit: No

Technical exploration of polymers and glass used for packaging worldwide. Material properties, production processes, applications, environmental impacts of polymers and glass.

Prerequisites: take PKG-150 and CHEM-135, BS Packaging students only

PKG-250 Consumer Packaging Systems

(3 cr.)

Repeatable for Credit: No

The study of packaging from the design concept through production. Lab work on structural design, sample making, and machine operation. Discussions on standard packages and their applications.

Prerequisites: take PKG-210 and PKG-220

PKG-260 Distribution Packaging

(3 cr.)

Repeatable for Credit: No

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations.

Prerequisites: take PKG-210 and PKG-220

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

Graphic Design and Interactive Media, B.F.A.

Go to [program website](#)

Graphic Design and Interactive Media, B.F.A. 4-year sequences:

- Communication Design Concentration
- Interaction Design Concentration

Introduction

The Bachelor of Fine Arts (*BFA*) in Graphic Design and Interactive Media program prepares students with the skills and flexibility to adapt to the rapidly changing nature of the graphic design and interactive media industry. UW-Stout graduates work at and have opened their own design firms nationally and globally. The success of our students is derived from a program that highlights the intersections of fine art, design, history, sustainability and a strong liberal arts education.

Developing the ability and knowledge to communicate using digital/technical communication systems and processes while understanding social, psychological and economic implications in relation to a variety of clients and design situations is a central objective of this program. Students will acquire "hands on" experience using industry standard tools, software and creative techniques, and are encouraged to participate in research projects, co-ops or study abroad programs.

A required mid-program portfolio review offers graphic design and interactive media students an assessment of their progress in foundation art and design courses. Extensive library resources and the art and design department visual resource center are significant assets. A 2.5 overall grade point average and a 2.0 or better in art and design department courses is required to complete this Bachelor of Fine Arts degree. An experiential learning component is required of all graduates of the BFA in Graphic Design and Interactive Media program, and may be successfully completed by participating in a co-op, internship, international study program, field experience or sponsored project. Graphic Design and Interactive Media students must present a portfolio of their work in the final semester as part of a public exhibition hosted by the School of Art and Design.

The BFA in Graphic Design and Interactive Media program provides students with an innovative education that is accredited by the National Association of Schools of Art and Design.

General Requirements

Bachelor of Fine Arts

Total for graduation	120 credits
General Education	40 credits
Concentration Requirements	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Required for Communication Design Concentration only

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Concentration Requirements (80 credits)

Communication Design Concentration

Core Studios (41 credits)

**ART-217 must be Serigraphy*

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

DES-210 Typography I: Letterform

(3 cr.)

Repeatable for Credit: No

Design of letterforms, figures, and visual symbols; history and development of type.

Prerequisites: take ART-100 with a grade of C or better

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

DES-260 Typography II:

(3 cr.)

Introduction to complex typographic systems with a focus on functional aspects of hierarchy, navigation, and user-centered information design. Practical application of compositional grids to print and online media.

No

Prerequisite: take DES 210 with a grade of C or better

DES-310 Graphic Design I

(3 cr.)

Repeatable for Credit: No

Exploration of the formal qualities of creating effective and informative design. Foundational design elements including line, shape, form and texture; compositional principle concepts of balance, contrast, grid structures and hierarchy.

Prerequisites: take ART-101 or DES-210, each with a grade of C or better

DES-325 Introduction to Web Design

(3 cr.)

Repeatable for Credit: No

Processes and concepts involved in the design and development of Web sites.

Prerequisites: take DES 310 with a grade of C or better

DES-360 Graphic Design II

(3 cr.)

Repeatable for Credit: No

Social responsibility, business and ethical factors affecting visual communication are investigated while deepening sensitivity and experience in graphic design. Deeper, broader understanding of how to create meaning and utilize problem-solving methodologies to develop work that is compelling, informative, and meaningful.

Prerequisites: take DES-310 and DES-220, each with a grade of C or better

DES-370 User Experience Design

(3 cr.)

Repeatable for Credit: No

Application of principles and methods involved in user experience design and human-computer interaction.

Prerequisites: take DES 325 and DES 360, each with a grade of C or better

DES-480 Senior Project - Graphic Design

(4 cr.)

Repeatable for Credit: No

Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system.

Instructor's Consent Required

Prerequisites: take DES-360, and take either DES 380 or DES-410, all with a grade of C or better

- DES-XXX Co-op, Field Experience or other as approved by program director (1 cr.)

Advanced Topic Studios (9 credits)

Choose three courses:

DES-371 Interactive Media Design

(3 cr.)

Repeatable for Credit: Yes

Design and development of interactive media compositions.

Prerequisites: DES 325 w/ a grade of C or better and DES 360 w/ a grade of C or better and CS 141 , OR take DES 360 w/ a grade of C or better and DES 325 w/ a grade of A, OR take DES 325 w/ a grade of C or better and DES 225 w/ a grade of C or better and CS 141

DES-380 Signage and Exhibition Design

(3 cr.)

Repeatable for Credit: Yes

Organization and design of environmental graphics through the production of signage, display, and exhibition support systems. A special course fee applies.

Prerequisites: take DES-205 and DES-360, each with a grade of C or better

DES-382 Information Design

(3 cr.)

Repeatable for Credit: No

Envisioning information through the design and production of charts, diagrams, maps, and other hierarchical graphics. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-384 Advertising Design

(3 cr.)

Repeatable for Credit: No

Graphic design principles and creative concepts as applied to advertising art. A special course fee applies.

Prerequisites: take DES-205 and DES-360, each with a grade of C or better

DES-385 Advanced Interactive Design

(3 cr.)

Repeatable for Credit: Yes

Advanced design and development of interactive projects. Project focus will rotate across contemporary topics. (Repeatable)

Prerequisite: take DES-371 with a grade of C or better

DES-386 Publication Design

(3 cr.)

Repeatable for Credit: No

Graphic design principles as applied to the combination and coordination of art and typography with text. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-388 Typographic Design

(3 cr.)

Repeatable for Credit: No

Design of grid-based, hierarchical and expressive typographic structures; analysis of historical and theoretical precedents. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-389 Typography in Motion

(3 cr.)

Repeatable for Credit: No

Introduction into dynamic, time-based typography covering technology and skills involved in creating kinetic and emotive typography with various media.

Prerequisites: take DES-325 and DES-360, each with a grade of C or better

DES-397 Design Field Experience/Experiential Learning

(1-3 cr.)

Repeatable for Credit: No

Work in an approved design position or conduct advanced research on an approved design ic.

Department Consent

DES-410 Product and Packaging Graphics

(3 cr.)

Repeatable for Credit: No

Design and application of graphics to products, packages, and related display systems.

Prerequisite: take DES-360 with a grade of C or better

DES-456 Advanced User Experience Design

(3 cr.)

Repeatable for Credit: No

Advanced application of user-centered methodologies for print and digital communication.

Prerequisites: take DES 360 , DES 370 , both with a C or better

Art Studio Selectives (9 credits)

3D Art Studio (3 credits min.)

ART-211 Contemporary Sculptural Practices I

(3 cr.)
Repeatable for Credit: No
Introduction to sculptural concepts.
Prerequisite: take ART-103 with a grade of "C" or better

ART-213 Ceramics I

(3 cr.)
Arts and Humanities - Creative/Performing Arts
Repeatable for Credit: No
Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)
Arts and Humanities - Creative/Performing Arts
Repeatable for Credit: No
Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-311 Contemporary Sculptural Practices II

(3 cr.)
Repeatable for Credit: No
Continued investigation into contemporary sculptural practices with an emphasis upon expanded research, development of concepts, and exploration of materials.
Prerequisite: take ART-211 with a grade of "C" or better

ART-313 Ceramics II

(3 cr.)
Repeatable for Credit: No
Continued study and application of wheel-throwing, hand-building, glazing and firing of ceramics, as a means of visual expression.
Prerequisite: take ART 213 with a grade of C or better

ART-315 Metals and Contemporary Art Jewelry II

(3 cr.)
Repeatable for Credit: No
Exploration of intermediate jewelry forms and three-dimensional objects made of metal and related materials. Expanded approaches to conceptual development, design and technical applications.
Prerequisite: take ART-215 with a grade of C or better

ART-411 Contemporary Sculptural Practices III

(1-3 cr.)

Repeatable for Credit: Yes

Advanced problems in sculpture, through the exploration and utilization of media for creative and expressive ends. Repeatable; topics and projects change

Prerequisite: take ART-311 with a grade of C or better

ART-413 Ceramics III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced self-directed research in ceramics, focusing on a continued development of aesthetics, techniques and materials.

Repeatable for both undergraduate and graduate students

Prerequisite: take ART-313 with a grade of C or better

ART-415 Metals and Contemporary Art Jewelry III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced studio experience in individualized jewelry forms and three-dimensional objects made of metal and related materials. A continuation of technical skills is coupled with emphasis on conceptual development and critical thinking.

Prerequisite: Take ART-315 with a grade of C or better

2D or 3D Art Studio Electives

Choose remainin unique courses from this list.

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-211 Contemporary Sculptural Practices I

(3 cr.)

Repeatable for Credit: No

Introduction to sculptural concepts.

Prerequisite: take ART-103 with a grade of "C" or better

ART-213 Ceramics I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-300 Drawing III

(3 cr.)

Repeatable for Credit: Yes

Advanced drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: take ART-200 with a grade of C or better

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

ART-311 Contemporary Sculptural Practices II

(3 cr.)

Repeatable for Credit: No

Continued investigation into contemporary sculptural practices with an emphasis upon expanded research, development of concepts, and exploration of materials.

Prerequisite: take ART-211 with a grade of "C" or better

ART-313 Ceramics II

(3 cr.)

Repeatable for Credit: No

Continued study and application of wheel-throwing, hand-building, glazing and firing of ceramics, as a means of visual expression.

Prerequisite: take ART 213 with a grade of C or better

ART-315 Metals and Contemporary Art Jewelry II

(3 cr.)

Repeatable for Credit: No

Exploration of intermediate jewelry forms and three-dimensional objects made of metal and related materials. Expanded approaches to conceptual development, design and technical applications.

Prerequisite: take ART-215 with a grade of C or better

ART-401 Life Drawing II

(3 cr.)

Repeatable for Credit: No

Continued drawing and analysis of the structure of the human figure.

Prerequisite: take ART-301 with a grade of C or better

ART-403 Life Drawing III

(1-3 cr.)

Repeatable for Credit: Yes

Self-directed study of Life Drawing; continued development of individual research, drawing skills, and studio discipline.

Prerequisite: take ART-401 with a grade of C or better

ART-409 Painting II

(1-3 cr.)

Repeatable for Credit: Yes

Continued investigation of painting issues with a broader range of technical concerns, historical and contemporary approaches through expanded research requirements.

Prerequisite: take ART-209 with a grade of C or better

ART-410 Painting III

(3 cr.)

Repeatable for Credit: Yes

Self-directed study of painting. Continued development of individual research, painting skills, and studio discipline.

Prerequisite: take ART-409 with a grade of C or better

ART-411 Contemporary Sculptural Practices III

(1-3 cr.)

Repeatable for Credit: Yes

Advanced problems in sculpture, through the exploration and utilization of media for creative and expressive ends. Repeatable; topics and projects change

Prerequisite: take ART-311 with a grade of C or better

ART-413 Ceramics III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced self-directed research in ceramics, focusing on a continued development of aesthetics, techniques and materials.

Repeatable for both undergraduate and graduate students

Prerequisite: take ART-313 with a grade of C or better

ART-414 Color Seminar

(4 cr.)

Repeatable for Credit: No

A case-study course exploring methodologies for use of color. Content includes gender-specific, historic, psychological, social, and symbolic use of color; color sensibilities in other cultures; and roots of color beliefs.

Prerequisites: take PHYS-150, PSYC-432, GCM-367, and ART-114 with a grade of C or better

ART-415 Metals and Contemporary Art Jewelry III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced studio experience in individualized jewelry forms and three-dimensional objects made of metal and related materials. A continuation of technical skills is coupled with emphasis on conceptual development and critical thinking.

Prerequisite: Take ART-315 with a grade of C or better

ART-417 Printmaking II

(1-3 cr.)

Repeatable for Credit: Yes

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits.

Prerequisite: take ART-217 with a grade of C or better

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Art History (9 credits)

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-319 History of Design

(3 cr.)

Repeatable for Credit: No

Survey of the history of modern design since its origins in the late Renaissance.

Prerequisites: take ARTH-224 with a grade of C or better and ENGL-101/ENGL-111

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Technical and Related (9 credits)

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery.

Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile.

Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

GCOM-251 Premedia Graphics Production

(3 cr.)

Repeatable for Credit: No

Optimization of digital creation, capture and manipulation of graphics for print and digital distribution. Premedia systems, workflow, color theory, digital photo, bitmap and vector graphic creation and editing. File and font management, document layout, automation, proofing, preflight and submission of files for output.

Prerequisite: take either GCOM-151 or DES-220

PSYC-377 Consumer Psychology

(3 cr.)

Repeatable for Credit: No

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Prerequisite: Take PSYC-110

Technical Elective (3 credits)

Choose one course.

DES-200 Design Concepts and Problems

(3 cr.)

Repeatable for Credit: No

Comprehensive understanding of the processes, techniques, and concepts used by designers to arrive at innovative and successful design solutions.

Prerequisites: take ART-101 and ART 103, each with a grade of C or better

DES-205 Design Drawing and Concept Visualization

(3 cr.)

Repeatable for Credit: No

Comprehensive education and training in developing, visualizing, and communicating design ideas through drawing.

Prerequisites: take ART-200 with a grade of C or better

PHOTO-330 Video Production

(3 cr.)

Repeatable for Credit: No

Introduction to essential concepts and techniques of video production. Emphasis is placed on preproduction and preparation for production, writing proposals and treatments, story-boarding and developing a workflow appropriate to the project. Students develop camera operation, audio, lighting, directing, producing and editing skills. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO 130 and a DSLR camera with full manual controls in still and video capture modes is required.

GCOM-351 Cross-Media Campaigns

(3 cr.)

Repeatable for Credit: No

Software, systems and processes used to plan and produce personalized and integrated cross-media (Web, print, e-mail, mobile, PDF, eBook, and other digital media) marketing/promotion campaigns. Databases, layout issues, dynamic content (text, images, charts and graphs), scripting, automation, variable data digital printing and personalization, design platforms and web storefront interaction.

Prerequisites: take GCOM-251

GCOM-362 Screen and Specialty Printing

(3 cr.)

Repeatable for Credit: No

Screen, and other specialty printing on a variety of substrates. Wide format, three-dimensional, lenticular, cut vinyl graphics, dye sublimation, pad printing, laser marking/engraving, issues and process-control concerns unique to these image transfer methods. Special course fee applies.

Prerequisite: take GCOM-141

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Interaction Design Concentration

Core Studios (41 credits)

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

DES-210 Typography I: Letterform

(3 cr.)

Repeatable for Credit: No

Design of letterforms, figures, and visual symbols; history and development of type.

Prerequisites: take ART-100 with a grade of C or better

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

DES-260 Typography II:

(3 cr.)

Introduction to complex typographic systems with a focus on functional aspects of hierarchy, navigation, and user-centered information design. Practical application of compositional grids to print and online media.

No

Prerequisite: take DES 210 with a grade of C or better

DES-310 Graphic Design I

(3 cr.)

Repeatable for Credit: No

Exploration of the formal qualities of creating effective and informative design. Foundational design elements including line, shape, form and texture; compositional principle concepts of balance, contrast, grid structures and hierarchy.

Prerequisites: take ART-101 or DES-210, each with a grade of C or better

DES-325 Introduction to Web Design

(3 cr.)

Repeatable for Credit: No

Processes and concepts involved in the design and development of Web sites.

Prerequisites: take DES 310 with a grade of C or better

DES-360 Graphic Design II

(3 cr.)

Repeatable for Credit: No

Social responsibility, business and ethical factors affecting visual communication are investigated while deepening sensitivity and experience in graphic design. Deeper, broader understanding of how to create meaning and utilize problem-solving methodologies to develop work that is compelling, informative, and meaningful.

Prerequisites: take DES-310 and DES-220, each with a grade of C or better

DES-370 User Experience Design

(3 cr.)

Repeatable for Credit: No

Application of principles and methods involved in user experience design and human-computer interaction.

Prerequisites: take DES 325 and DES 360 , each with a grade of C or better

DES-371 Interactive Media Design

(3 cr.)

Repeatable for Credit: Yes

Design and development of interactive media compositions.

Prerequisites: *DES 325 w/ a grade of C or better and DES 360 w/ a grade of C or better and CS 141 , OR take DES 360 w/ a grade of C or better and DES 325 w/ a grade of A, OR take DES 325 w/ a grade of C or better and DES 225 w/ a grade of C or better and CS 141*

DES-480 Senior Project - Graphic Design

(4 cr.)

Repeatable for Credit: No

Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system.

Instructor's Consent Required

Prerequisites: *take DES-360, and take either DES 380 or DES-410, all with a grade of C or better*

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Advanced Topic Studios (6 credits)

Interactive Studio (3 credit min.)

DES-371 Interactive Media Design

(3 cr.)

Repeatable for Credit: Yes

Design and development of interactive media compositions.

Prerequisites: *DES 325 w/ a grade of C or better and DES 360 w/ a grade of C or better and CS 141 , OR take DES 360 w/ a grade of C or better and DES 325 w/ a grade of A, OR take DES 325 w/ a grade of C or better and DES 225 w/ a grade of C or better and CS 141*

DES-385 Advanced Interactive Design

(3 cr.)

Repeatable for Credit: Yes

Advanced design and development of interactive projects. Project focus will rotate across contemporary topics. (Repeatable)

Prerequisite: *take DES-371 with a grade of C or better*

Advanced Topic Studio Elective

Choose remaining unique courses from the list.

DES-371 Interactive Media Design

(3 cr.)

Repeatable for Credit: Yes

Design and development of interactive media compositions.

Prerequisites: DES 325 w/ a grade of C or better and DES 360 w/ a grade of C or better and CS 141 , OR take DES 360 w/ a grade of C or better and DES 325 w/ a grade of A, OR take DES 325 w/ a grade of C or better and DES 225 w/ a grade of C or better and CS 141

DES-380 Signage and Exhibition Design

(3 cr.)

Repeatable for Credit: Yes

Organization and design of environmental graphics through the production of signage, display, and exhibition support systems. A special course fee applies.

Prerequisites: take DES-205 and DES-360, each with a grade of C or better

DES-382 Information Design

(3 cr.)

Repeatable for Credit: No

Envisioning information through the design and production of charts, diagrams, maps, and other hierarchical graphics. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-384 Advertising Design

(3 cr.)

Repeatable for Credit: No

Graphic design principles and creative concepts as applied to advertising art. A special course fee applies.

Prerequisites: take DES-205 and DES-360, each with a grade of C or better

DES-385 Advanced Interactive Design

(3 cr.)

Repeatable for Credit: Yes

Advanced design and development of interactive projects. Project focus will rotate across contemporary topics. (Repeatable)

Prerequisite: take DES-371 with a grade of C or better

DES-386 Publication Design

(3 cr.)

Repeatable for Credit: No

Graphic design principles as applied to the combination and coordination of art and typography with text. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-388 Typographic Design

(3 cr.)

Repeatable for Credit: No

Design of grid-based, hierarchical and expressive typographic structures; analysis of historical and theoretical precedents. A special course fee applies.

Prerequisite: take DES-360 with a grade of C or better

DES-389 Typography in Motion

(3 cr.)

Repeatable for Credit: No

Introduction into dynamic, time-based typography covering technology and skills involved in creating kinetic and emotive typography with various media.

Prerequisites: take DES-325 and DES-360, each with a grade of C or better

DES-397 Design Field Experience/Experiential Learning

(1-3 cr.)

Repeatable for Credit: No

Work in an approved design position or conduct advanced research on an approved design ic.

Department Consent

DES-410 Product and Packaging Graphics

(3 cr.)

Repeatable for Credit: No

Design and application of graphics to products, packages, and related display systems.

Prerequisite: take DES-360 with a grade of C or better

DES-456 Advanced User Experience Design

(3 cr.)

Repeatable for Credit: No

Advanced application of user-centered methodologies for print and digital communication.

Prerequisites: take DES 360 , DES 370 , both with a C or better

Art History (9 credits)

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-319 History of Design

(3 cr.)

Repeatable for Credit: No

Survey of the history of modern design since its origins in the late Renaissance.

Prerequisites: take ARTH-224 with a grade of C or better and ENGL-101/ENGL-111

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Technical and Related (6 credits)

CS-141 Introduction to Programming

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Solving problems using computer programming. Input/output, user interface, objects, events, flow of control, functions, arrays.

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

Technical Electives (6 credits)

Choose two courses.

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

DES-200 Design Concepts and Problems

(3 cr.)

Repeatable for Credit: No

Comprehensive understanding of the processes, techniques, and concepts used by designers to arrive at innovative and successful design solutions.

Prerequisites: take ART-101 and ART 103, each with a grade of C or better

DES-205 Design Drawing and Concept Visualization

(3 cr.)

Repeatable for Credit: No

Comprehensive education and training in developing, visualizing, and communicating design ideas through drawing.

Prerequisites: take ART-200 with a grade of C or better

DES-405 Advanced Design Drawing

(3 cr.)

Repeatable for Credit: No

In-depth study of illustration and presentation styles within various design contexts. Development of drawing skills in traditional and digital media, emphasizing perspective, form, and texture. Emphasis on rapid freehand, conceptual drawing as a means to imagine and develop design concepts.

Prerequisites: take DES 205 ; MFAiD students need Program Director approval

PHOTO-330 Video Production

(3 cr.)

Repeatable for Credit: No

Introduction to essential concepts and techniques of video production. Emphasis is placed on preproduction and preparation for production, writing proposals and treatments, story-boarding and developing a workflow appropriate to the project. Students develop camera operation, audio, lighting, directing, producing and editing skills. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO 130 and a DSLR camera with full manual controls in still and video capture modes is required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Art Studios (12 credits)

2D Art Studio (3 credits min.)

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

ART-300 Drawing III

(3 cr.)

Repeatable for Credit: Yes

Advanced drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: take ART-200 with a grade of C or better

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

ART-401 Life Drawing II

(3 cr.)

Repeatable for Credit: No
Continued drawing and analysis of the structure of the human figure.
Prerequisite: take ART-301 with a grade of C or better

ART-403 Life Drawing III

(1-3 cr.)
Repeatable for Credit: Yes
Self-directed study of Life Drawing; continued development of individual research, drawing skills, and studio discipline.
Prerequisite: take ART-401 with grade of C or better

ART-409 Painting II

(1-3 cr.)
Repeatable for Credit: Yes
Continued investigation of painting issues with a broader range of technical concerns, historical and contemporary approaches through expanded research requirements.
Prerequisite: take ART-209 with a grade of C or better

ART-410 Painting III

(3 cr.)
Repeatable for Credit: Yes
Self-directed study of painting. Continued development of individual research, painting skills, and studio discipline.
Prerequisite: take ART-409 with a grade of C or better

ART-414 Color Seminar

(4 cr.)
Repeatable for Credit: No
A case-study course exploring methodologies for use of color. Content includes gender-specific, historic, psychological, social, and symbolic use of color; color sensibilities in other cultures; and roots of color beliefs.
Prerequisites: take PHYS-150, PSYC-432, GCM-367, and ART-114 with a grade of C or better

ART-417 Printmaking II

(1-3 cr.)
Repeatable for Credit: Yes
Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits.
Prerequisite: take ART-217 with a grade of C or better

3D Art Studio (3 credits min.)

ART-211 Contemporary Sculptural Practices I

(3 cr.)

Repeatable for Credit: No

Introduction to sculptural concepts.

Prerequisite: take ART-103 with a grade of "C" or better

ART-213 Ceramics I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-311 Contemporary Sculptural Practices II

(3 cr.)

Repeatable for Credit: No

Continued investigation into contemporary sculptural practices with an emphasis upon expanded research, development of concepts, and exploration of materials.

Prerequisite: take ART-211 with a grade of "C" or better

ART-313 Ceramics II

(3 cr.)

Repeatable for Credit: No

Continued study and application of wheel-throwing, hand-building, glazing and firing of ceramics, as a means of visual expression.

Prerequisite: take ART 213 with a grade of C or better

ART-315 Metals and Contemporary Art Jewelry II

(3 cr.)

Repeatable for Credit: No

Exploration of intermediate jewelry forms and three-dimensional objects made of metal and related materials. Expanded approaches to conceptual development, design and technical applications.

Prerequisite: take ART-215 with a grade of C or better

ART-411 Contemporary Sculptural Practices III

(1-3 cr.)

Repeatable for Credit: Yes

Advanced problems in sculpture, through the exploration and utilization of media for creative and expressive ends. Repeatable; topics and projects change

Prerequisite: take ART-311 with a grade of C or better

ART-413 Ceramics III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced self-directed research in ceramics, focusing on a continued development of aesthetics, techniques and materials.

Repeatable for both undergraduate and graduate students

Prerequisite: take ART-313 with a grade of C or better

ART-415 Metals and Contemporary Art Jewelry III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced studio experience in individualized jewelry forms and three-dimensional objects made of metal and related materials. A continuation of technical skills is coupled with emphasis on conceptual development and critical thinking.

Prerequisite: Take ART-315 with a grade of C or better

2D or 3D Art Studio Electives

Choose remaining unique course from the list.

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-211 Contemporary Sculptural Practices I

(3 cr.)

Repeatable for Credit: No

Introduction to sculptural concepts.

Prerequisite: take ART-103 with a grade of "C" or better

ART-213 Ceramics I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

ART-300 Drawing III

(3 cr.)

Repeatable for Credit: Yes

Advanced drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: take ART-200 with a grade of C or better

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

ART-311 Contemporary Sculptural Practices II

(3 cr.)

Repeatable for Credit: No

Continued investigation into contemporary sculptural practices with an emphasis upon expanded research, development of concepts, and exploration of materials.

Prerequisite: take ART-211 with a grade of "C" or better

ART-313 Ceramics II

(3 cr.)

Repeatable for Credit: No

Continued study and application of wheel-throwing, hand-building, glazing and firing of ceramics, as a means of visual expression.

Prerequisite: take ART 213 with a grade of C or better

ART-315 Metals and Contemporary Art Jewelry II

(3 cr.)

Repeatable for Credit: No

Exploration of intermediate jewelry forms and three-dimensional objects made of metal and related materials. Expanded approaches to conceptual development, design and technical applications.

Prerequisite: take ART-215 with a grade of C or better

ART-401 Life Drawing II

(3 cr.)

Repeatable for Credit: No

Continued drawing and analysis of the structure of the human figure.

Prerequisite: take ART-301 with a grade of C or better

ART-403 Life Drawing III

(1-3 cr.)

Repeatable for Credit: Yes

Self-directed study of Life Drawing; continued development of individual research, drawing skills, and studio discipline.

Prerequisite: take ART-401 with grade of C or better

ART-409 Painting II

(1-3 cr.)

Repeatable for Credit: Yes

Continued investigation of painting issues with a broader range of technical concerns, historical and contemporary approaches through expanded research requirements.

Prerequisite: take ART-209 with a grade of C or better

ART-410 Painting III

(3 cr.)

Repeatable for Credit: Yes

Self-directed study of painting. Continued development of individual research, painting skills, and studio discipline.

Prerequisite: take ART-409 with a grade of C or better

ART-411 Contemporary Sculptural Practices III

(1-3 cr.)

Repeatable for Credit: Yes

Advanced problems in sculpture, through the exploration and utilization of media for creative and expressive ends. Repeatable; topics and projects change

Prerequisite: take ART-311 with a grade of C or better

ART-413 Ceramics III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced self-directed research in ceramics, focusing on a continued development of aesthetics, techniques and materials.

Repeatable for both undergraduate and graduate students

Prerequisite: take ART-313 with a grade of C or better

ART-414 Color Seminar

(4 cr.)

Repeatable for Credit: No

A case-study course exploring methodologies for use of color. Content includes gender-specific, historic, psychological, social, and symbolic use of color; color sensibilities in other cultures; and roots of color beliefs.

Prerequisites: take PHYS-150, PSYC-432, GCM-367, and ART-114 with a grade of C or better

ART-415 Metals and Contemporary Art Jewelry III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced studio experience in individualized jewelry forms and three-dimensional objects made of metal and related materials. A continuation of technical skills is coupled with emphasis on conceptual development and critical thinking.

Prerequisite: Take ART-315 with a grade of C or better

ART-417 Printmaking II

(1-3 cr.)

Repeatable for Credit: Yes

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits.

Prerequisite: take ART-217 with a grade of C or better

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Health, Wellness and Fitness, B.S.

Go to [program website](#)

Health, Wellness and Fitness, B.S. 4-year sequences:

- Fitness Professional Concentration
- Health and Wellness Promotions Concentration

Introduction

The Health, Wellness and Fitness program prepares students to enter the healthcare arena as preventative healthcare workers. Students become knowledgeable of the causes of the major controllable health care issues in society today and into the future. They gain the skills to assist others to develop healthier lifestyles to combat major controllable health issues such as obesity, diabetes, various coronary diseases and conditions. Students learn business management skills to aid entry into the profession. The program integrates the professional domains of nutrition, fitness, health education, business procedures and management and community health to prepare prevention specialists.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	59 credits
Concentration	21 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

- *Remaining course must be from an area including anthropology, economics, geography, political science and sociology.*

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

HWF-340 Community CPR, Automatic External Defibrillation and First Aid

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

American Red Cross Certification - Adult, child and infant CPR, automated external defibrillator use, first aid; personal safety, accident prevention knowledge; sudden illness recognition; respond/administer emergency techniques; social responsibility, ethical reasoning, first aid and emergency situations. A special course fee applies.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (59 credits)

Human Sciences (16 credits)

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

CHEM-115 General Chemistry

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles of chemistry with applications: composition and structure of matter, formation and naming of compounds, mole concept, writing and balancing chemical equations, types of reactions, elementary stoichiometry, bonding, states of matter, equilibrium, solutions, acids and bases.

Math Placement or MATH-90 required.

FN-207 Medical Terminology

(1 cr.)

Repeatable for Credit: No

Medical terminology for allied health occupations. Self-paced instruction utilizing a word-building system to learn word parts used to construct or analyze new terms. Emphasis on spelling, definition, usage and pronunciation.

HWF-225 Structural Kinesiology

(3 cr.)

Repeatable for Credit: No

Musculoskeletal anatomy as it applies to human movement as well as basic kinesiological concepts. Muscle and bone identification as well as joint function and structure.

HLTH-365 Physiology of Exercise

(3 cr.)

Repeatable for Credit: No

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: take BIO-132

Health and Wellness (20 credits)

HWF-100 Introduction to Health, Wellness & Fitness Industry

(2 cr.)

Repeatable for Credit: No

Exploration of the major components, systems, and processes of the health, wellness, and fitness industry. Examination of past and present trends and key components in various industry sectors. Advisement on course sequence, field experience and career opportunities.

HWF-275 Lifespan Health, Wellness and Fitness

(3 cr.)

Repeatable for Credit: No

Understanding the importance of a healthy lifestyle throughout the lifespan. Examination of health, history, medications, culture, ages, lifestyles, predisposed health conditions, injury/physical challenges, and the individual's goals/objectives.

HWF-322 Health and Fitness Assessment

(3 cr.)

Repeatable for Credit: No

Health and fitness evaluation, theory and practice. Cardiorespiratory, body composition, musculoskeletal screens, flexibility, balance, power and agility evaluation.

Prerequisites: take BIO-234 & HWF 225

HWF-348 Stress Assessment and Intervention

(3 cr.)

Repeatable for Credit: No

Theory and methods related to stress interpretation, recognition and intervention. Developing skills necessary for identifying stressors and applying appropriate intervention techniques that will lead to a healthy lifestyle. Designing prescription plans for individual and groups.

HLTH-350 Prevention and Care of Athletic Injuries

(3 cr.)

Repeatable for Credit: No

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

Prerequisites: take HWF-340 and BIO-234

HLTED-360 Personal Health and Fitness

(3 cr.)

Repeatable for Credit: No

Analysis of consequences of individual decisions and lifestyle choices related to personal health and well-being.

HLTED-375 Methods In Health, Wellness and Fitness

(3 cr.)

Repeatable for Credit: No

Health education teaching methods, teaching health related concepts: stress management, cardiovascular fitness, nutrition, and physical testing.

Nutrition (5 credits)

FN-212 Nutrition

(3 cr.)

Repeatable for Credit: No

Basic principles of nutrition applied to current issues in health maintenance.

Prerequisites: take BIO-234 and CHEM-115 or higher

FN-312 Nutritional Assessment

(2 cr.)

Repeatable for Credit: No

Fundamental principles and techniques of nutritional assessment, application of nutritional assessment skills, and interpretation of assessment data.

Prerequisite: take FN-212

Psychology/Behavior Management (3 credits)

PSYC-371 Introduction to Health Psychology

(3 cr.)

Repeatable for Credit: No

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies.

Prerequisites: must have 10 credits in PSYC courses

PSYC-377 Consumer Psychology

(3 cr.)

Repeatable for Credit: No

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Prerequisite: Take PSYC-110

Business and Management (14 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

HT-460 Hospitality Industry Law and Liability

(3 cr.)

Repeatable for Credit: No

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

HWF-390 Recreational Facilities Management and Leadership

(3 cr.)

Repeatable for Credit: No

Basic methods, concepts, and procedures of planning, programming, budgeting, project management, and operations management. Theories and principles of personal, managerial, and administrative leadership in recreational services; identification of policies, health and emergency procedures, and contingency plans for the operation of recreational leagues and tournaments.

Prerequisites: Take BUMGT-304

Preprofessional Experience (2 credits)

HWF-398 Field Experience in Health, Wellness and Fitness

(1-8 cr.)

Repeatable for Credit: No

Work and study in an approved health, wellness or fitness position. Students will work under supervision in this experience. Minimum of 160 contact hours.

Department Consent

(1 credit required)

HWF-498 Advanced Field Experience in Health, Wellness and Fitness

(1-3 cr.)

Repeatable for Credit: Yes

Work and study in an approved health, wellness or fitness position. Students will work with supervision in this experience. Minimum of 320 contact hours.

Department Consent

Concentrations

Fitness Professional (21 credits)

FN-355 Sports Nutrition

(3 cr.)

Repeatable for Credit: No

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

Prerequisite: take FN-212

HWF-370 Personal and Group Exercise: Theory and Methods

(3 cr.)

Repeatable for Credit: No

Theory and methods related to personal and group fitness. Developing skills necessary for teaching fitness classes in various settings. Designing prescription plans for individuals and groups. Current and past fitness trends.

HWF-418 Administration of Strength Training and Conditioning

(4 cr.)

Repeatable for Credit: No

Exercise science and its application to program design, implementation, and evaluations. Preparation for the National Strength and Conditioning Association (NSCA) and the Certified Strength and Conditioning Specialist (CSCS) examinations.

Prerequisites: take BIO-234

HT-352 Club Management

(3 cr.)

Repeatable for Credit: No

Managing a membership, city, health and fitness, military, golf, or other social or recreation club.

Must be Junior level or higher

- XXX-XXX Electives (8 cr.)

Note(s):

Through advising, select courses to fulfill concentration. Examples include courses from areas such as nutrition, aging, adventure education, lifespan sports, racquet sports, psychology, rehabilitation and disability.

Health and Wellness Promotions (21 credits)

BIO-128 Community Health

(2 cr.)

Repeatable for Credit: No

Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws.

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

HDFS-345 Health Care Dilemmas & Decisions for Families

(3 cr.)

Repeatable for Credit: No

Bioethical issues facing U.S. families. Selected issues provoke deep and troubling questions that will be addressed from a multidisciplinary perspective through readings, student-led discussion, lectures, and case reviews.

FN-380 Community Nutrition

(3 cr.)

Repeatable for Credit: No

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems.

Prerequisite: take FN-212

HLTED-376 Organization and Administration of Health Education

(3 cr.)

Repeatable for Credit: No

Planning, promoting, and implementing comprehensive health education programs at the elementary, middle, and secondary levels. Needs assessment; curriculum development and coordination; public relations; and the development of cooperative relationships with

parents, private business, and voluntary and community health agencies.
Department Consent

- XXX-XXX Electives (6 cr.)

Note(s):

Through advising, select courses to fulfill concentration. Examples include courses from areas such as nutrition, aging, disability, leisure activities, psychology and rehabilitation.

Honors College

Go to [program website](#)

Academic Requirements

Entrance into the Honors College

Students are accepted into the Honors College in one of two ways: being invited to join based on high academic achievement or by applying using the application form on this website. Students from a wide range of academic experiences are encouraged to apply and have successfully completed the college's requirements.

Honors Units

Honors College students complete eight honors units during their time at Stout. Honors units include an exciting variety of course offerings each semester, study abroad opportunities, and Honors Contracts.

Courses: We have a rich variety of courses in every general education category. Students earn general education credits by taking honors courses in place of regular classes. Students read primary source materials rather than textbooks and discussion-based classes are centered on important questions. Students must earn a grade of B or better in a course in order to earn one honors unit. A three credit course will count as one honors unit. Once in a student's career, a four or five credit course will earn two honors units, with a grade of B or better.

Contracts: Honors College students must complete at least one Honors Contract prior to graduation. Successful completion of a contract earns a student one honors unit. To complete a contract, students meet with a faculty mentor to design and accomplish a project that interests them and that adds depth or breadth to their study. Students work with their mentor to complete a substantial project equivalent to approximately 60 hours of work. The student may complete no more than two Honors Contracts in a single academic area.

Capstone: The Honors Capstone is a two-unit option for senior-level students. This is a major interdisciplinary research project that may build upon a capstone in the major. It requires at least 120 hours of work. Capstone projects are encouraged but not required.

Study Abroad Opportunities: Students who study abroad for a semester, summer session or WinTerM, and receive a B or better in at least one course of study, will earn one honors unit. Students who study abroad for a full year, and earn B or better in at least one course per semester abroad, will receive two honors units. Study abroad is encouraged but not required.

Honors Colloquia

Each semester all honors students in the college consider an issue and read a related text. Readings are done independently and a date is set for the whole of the Honors College student body to meet to discuss the topic in small groups. Members of the faculty facilitate the small group discussions. The evening ends with each group forming a question or statement summarizing their discussions. Attendance and participation is required to maintain good standing in the Honors College.

Honors Cultural Enhancement Events

Honors events are designed to expand the intellectual breadth of our student body. They include trips to see plays or musical performances, nature-study trips, documentary screenings, service activities or campus speakers among others approved by the Honors College. Students are required to attend a minimum of one enhancement event per year.

Transfer Students

Transfer students are encouraged to set up an appointment and meet with the directors to determine eligibility for Honors College and suitability of honors courses and options towards the completion of their majors.

Requirement: 8 Honors Units

Including the following:

- Minimum of one Honors contract - students may complete a maximum of two contracts in any single discipline. Maximum of three contracts, unless approved by director
- Honors courses with a B or better - students may earn two honors units for the first 4- or 5-credits honors course they complete with a B or better. Subsequent 4- or 5-credit courses will count for one unit
- Study abroad experience in which student earns a grade of B or better in at least one course - students may gain a maximum of two honors units through study abroad. Each separate experience/country counts as an honors unit
- Honors capstone, which counts for two units - students may complete a maximum of one honors capstone
- Eight Honors Colloquia - students studying abroad or completing coops/internships do not need to participate in colloquia for the semesters they are off campus
- Four Honors Events

Hotel, Restaurant and Tourism Management, B.S.

Go to [program website](#)

Introduction

Hotel, restaurant and tourism management is one of the largest and fastest growing industries in the United States. Each year, leisure time increases for thousands of Americans, and the demands on the hospitality industry are growing. Existing lodging and dining facilities are expanding and new businesses are developing to accommodate the increased demand for hospitality services.

UW-Stout's Hotel, Restaurant and Tourism Management majors receive a variety of training. The program includes studies in general education to provide students a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society. A choice of professional selectives provides students with flexibility to pursue a specialized field of study. The curriculum is designed to prepare competent, creative and responsible managers. Graduates are employed in the hospitality food and beverage industry, and in hotels and tourism facilities.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Studies	68 credits
Professional Selectives	12 credits

A "C-" (1.67) or better is required for each course in the professional studies. A 2.75 grade point average is required for graduation.

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical

topics, along with practical applications to modern life.
Prerequisite: Math Placement Level 2 or completion of MATH 90

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Studies (68 credits)

Operations Management (30 Credits)

HT-121 Principles of Foodservice Operations

(3 cr.)

Repeatable for Credit: No

Professional segments of foodservice operations: history, types of operations, functions, facilities design, equipment, basic cooking principles, dining room service, and management concepts.

HT-140 Principles of Tourism

(3 cr.)

Repeatable for Credit: No

Scope, structure, and function of tourism as an industry and a sociocultural phenomenon; industry components and the importance of maximizing costs to its stakeholders.

HT-235 Lodging Systems

(3 cr.)

Repeatable for Credit: No

Examination of the basic skills needed in a lodging facility. Specific roles, functions, and policies pertaining to the Rooms Division.
Must be Sophomore level or higher

HT-325 Food Service Production and Operations Management

(3 cr.)

Repeatable for Credit: No

Examination and synthesis of principal production and operational challenges facing managers in the food service industry using various control systems required to maximize the quality and profitability in the food service operation.

Prerequisite: take HT-121

GEM-211 Customer Experience Management

(3 cr.)

Repeatable for Credit: No

Principles associated with managing the customer experience, satisfaction, and the employee engagement process. Focus on blend of technology, people and information needed to achieve a distinctive competitive advantage.

PM-280 Hospitality Facilities Management

(3 cr.)

Repeatable for Credit: No

Applied perspectives on responsible and efficient management of physical plant and equipment demands to achieve maximum guest and tenant satisfaction at acceptable operating costs.

Must be Sophomore level or higher

HT-326 Introduction to Wines and Spirits

(3 cr.)

Global Perspective

Repeatable for Credit: No

Applied and historical knowledge of wines and spirits from different regions of the world; emphasis on preparation, selection, accompaniment with food, basic cost control analysis and service. A special course fee applies.

Must be 21 years of age or older

HT-352 Club Management

(3 cr.)

Repeatable for Credit: No

Managing a membership, city, health and fitness, military, golf, or other social or recreation club.

Must be Junior level or higher

HT-340 Development of Tourism Attractions

(3 cr.)

Repeatable for Credit: No

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations.

Prerequisites: take HT-140 and ECON-210

HT-454 Security and Risk Management for the Hospitality Industry

(3 cr.)

Repeatable for Credit: No

Advanced investigation of security and risk management within hospitality/service industries.

HT-457 Hospitality Management Strategies

(3 cr.)

Repeatable for Credit: No

Comparison and synthesis of hospitality management strategies; concepts and theories in relationship to long-term hospitality business goals and objectives. Capstone course for senior-level H&T students.

Prerequisite: Must be Senior level and take HT-362

Financial and Revenue Management (21 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

HT-344 Hospitality and Tourism Marketing and Sales

(3 cr.)

Repeatable for Credit: No

Analysis of marketing strategy, sales techniques, promotional tools, and research for hospitality and tourism development.

Must be Junior level or higher

HT-345 Hospitality Sales

(3 cr.)

Repeatable for Credit: No

A comprehensive view of sales in the hotel/hospitality industry as it related to the achievement of sales goals. Hospitality sales strategies including the processes and focused as it relates to the hospitality industry.

HT-362 Foodservice Finance and Cost Control

(3 cr.)

Repeatable for Credit: No

The use of financial techniques and systems to develop and analyze budgets, control food, beverage, and labor costs in foodservice operations.

Prerequisite: take BUACT-206

HT-383 Yield Management

(3 cr.)

Repeatable for Credit: No

Investigation of the use of computer technology in the lodging industry for revenue planning, scheduling and performance evaluation. Specialized software will be used to analyze and evaluate hotel performance.

Prerequisites: take HT 235 , HT-200 and STAT 130

HT-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

Organizational Management (15 credits)

HT-101 Principles of Hospitality Organizational Management

(3 cr.)

Repeatable for Credit: No

Explore the major components and organization structure of the hospitality industry, while preparing students for management opportunities. The class will study hospitality operations with a focus on management, leadership and organizational behavior.

HT-350 Hospitality Diversity Management

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Analysis of multiculturalism and diversity in the hotel, restaurant and tourism workplace. Managing a diverse workforce in a logical and meaningful manner through understanding self-perspectives, group identities, and workplace strategies.

Must be Junior level or higher

HT-460 Hospitality Industry Law and Liability

(3 cr.)

Repeatable for Credit: No

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

HT-461 Hospitality Employee Relations

(3 cr.)

Repeatable for Credit: No

History and legal strategies and tactics in dealing with hospitality employees in both union and non-union settings.

HT-490 Hospitality Capstone

(3 cr.)

Repeatable for Credit: No

Project-based capstone for Hotel, Restaurant, and Tourism Management majors involving the integration and application of interdisciplinary management concepts, theories, and practices instrumental to management success within the hospitality and tourism industry.

Must be Senior level or higher

Co-op/Internship Experience (2 credits)

HT-349 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

HT-449 Cooperative Education Experience

(2 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

Must be Junior level or higher

Professional Selectives (12 credits)

Courses from golf enterprise management (GEM), hospitality and tourism (HT), and property management (PM), or an international experience, approved by the program director, may be taken to reach the 12- credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Course Selective-4 :

Choose a selective to fulfill credit requirements.

Human Development and Family Studies, B.S.

Go to [program website](#)

Human Development and Family Studies, B.S.: 4-year sequence, 3-year sequence

Introduction

The Human Development and Family Studies (*HDFS*) field is dedicated to the study of human development and the interrelationships among individuals, families and communities. It is an interdisciplinary field that draws from other social sciences but has established distinct assumptions, approaches to studying families, and world view. A multidisciplinary approach provides students with both a broad perspective and specialized knowledge. Our goal is to foster positive sensitivity to the needs of families and their members through the lenses of relationships, culture, gender, age, and life stage, among others.

The program integrates academic study with significant experiential learning with individuals of all ages, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. Hospitals, human service agencies, community groups, adolescent group homes and homes for senior citizens provide opportunities for the synthesis of practical and theoretical knowledge.

The HDFS program also highly encourages students to study abroad during their time at UW-Stout. A variety of education abroad opportunities are available to students. Courses taken while studying abroad can count towards courses in the HDFS program. Students can choose to take general education courses, HDFS core courses, free electives or concentration/minor courses abroad. For more information about opportunities, please visit the [UW-Stout Education Abroad website](#).

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	43 credits
Major Studies	62 credits
Concentration or Minor	15 credits

Students must have a cumulative grade point average of 2.5 within the major studies for graduation and to register for the internship experience.

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (43 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (9 credits)

POLS-210 American Government

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

SOC-110 Introductory Sociology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Introduction to sociological theories and methods in the study of social groups, interaction, inequality, and institutions. The place of the U.S. in a global context; comparisons of contemporary U.S. society with other societal and historical contexts. Processes of social location and inequalities, especially those pertaining to race/ethnicity.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from the Social and Behavioral Sciences category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (62 credits)

Required Core (56 credits)

HDFS-101 Introduction to Human Development and Family Studies

(1 cr.)

Repeatable for Credit: No

Introduction to the academic program and professional field of Human Development and Family Studies. Program requirements, policies, and expectations. Overview of the family studies field and related knowledge and skills. Careers in the helping professions.

HDFS-115 Healthy Couple Relationships

(3 cr.)

Repeatable for Credit: No

Intimate relationship development; characteristics of diverse committed relationships. Elements of healthy relationships and issues leading to relationship dissolution. topics include: self-awareness, communication, love, commitment, sexualities, sexual decision-making, partner selection, and relationship dysfunctions. Realistic expectations about intimate relationships.

HDFS-124 Human Development: Early Childhood

(3 cr.)

Repeatable for Credit: No

Principles and theories of growth and development prenatal through pre-adolescence, with a systemic perspective on physical, motor, cognitive, language and social and emotional development. Observations required.

HDFS-215 Introduction to Families

(3 cr.)

Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Understand family science discipline and families from a **family science perspective**. Examine "family" and apply theoretical frameworks for studying families. Emphasis on internal family system functioning, intergenerational dynamics and *family as a changing unit over time*. Examine family transitions, stages, and developmental tasks over the life course.

HDFS-225 Skill Training for Individual/Family Interventions

(3 cr.)

Repeatable for Credit: No

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings.

HDFS-257 Lifespan Sexuality

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Introduction to human sexuality over the lifespan, utilizing an individual and family perspective. Development of sexual behavior,

relationships, and gender characteristics from infancy to late life. Emphasis on ethical issues and implications of sexuality, gender and sexual orientation. Discussion of love and intimacy as key aspects of sexuality.

HDFS-270 Seminar on Self-Growth

(3 cr.)

Repeatable for Credit: No

Course in personal growth and self-management. A starting point in working with families in a diverse world is to begin with an understanding of self. Learning strategies are aimed at bridging theory with real-life experiences.

HDFS-290 Introduction to Understanding Knowledge in HDFS

(2 cr.)

Repeatable for Credit: No

Introduction to knowledge, theory, research, and epistemology in Human Development and Family Studies.

Prerequisite: take HDFS 101

HDFS-330 Human Development: Adolescence/Emerging Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of adolescence through emerging adulthood. Theories of identity development, individuation, and differentiation of self from others. Social development focusing on important relationship transitions.

Prerequisite: take HDFS 124

HDFS-335 Critical Cultural Competence

(3 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

Critical cultural competence and application to individuals and families. Systems of privilege and oppression. How socio-historical contexts shape interpersonal dynamics. Self-examination of cultural assumptions. Practice in critically thinking about difference and how to connect across differences.

HDFS-336 Practice in Critical Cultural Competence

(1 cr.)

Repeatable for Credit: No

Practice of critical cultural competence skills in settings serving individuals and families. Working with and connecting across categories of difference to increase awareness, sensitivity, and understanding.

Prerequisite: HDFS-335

HDFS-340 Human Development: Middle to Late Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of middle and late adulthood. Analysis of intragenerational and intergenerational relationships. Critical evaluation of societal impacts on adults and their families. Develop a sensitive and informed approach to effectively working with midlife and older adults.

Prerequisite: take HDFS 124 and HDFS 330

HDFS-345 Health Care Dilemmas & Decisions for Families

(3 cr.)

Repeatable for Credit: No

Bioethical issues facing U.S. families. Selected issues provoke deep and troubling questions that will be addressed from a multidisciplinary perspective through readings, student-led discussion, lectures, and case reviews.

HDFS-365 Family Resource Management

(3 cr.)

Repeatable for Credit: No

Individual and family use of resources to meet needs and attain goals. Critical evaluation of resource disparities and how families are impacted. Develop approach to working with diverse families and external systems on issues of resource management.

HDFS-420 Family Research and Methodology

(3 cr.)

Repeatable for Credit: No

Analysis of family theory, research methodology and selected topics in family relations.

Prerequisites: take HDFS-115 and HDFS-215

HDFS-450 Family Policy

(3 cr.)

Repeatable for Credit: No

Family policy and family perspective in policymaking. Reciprocal relationship between families and public policies. Family policy formation, implementation, evaluation and advocacy.

Prerequisites: take HDFS-115 and HDFS-215

HDFS-456 Abuse and the Family

(3 cr.)

Repeatable for Credit: No

Definition and analysis of types of abuse in family context. Interrelationship of victims, perpetrators, other family members, helping professionals, social context. Risk factors, effects, reporting and recovery.

Prerequisites: take HDFS-115 and HDFS-215

HDFS-490 Professional Issues: Human Development and Family Studies

(3 cr.)

Repeatable for Credit: No

Issues related to professional development in areas of human development and family studies.

Prerequisites: For HDFS majors only. Must have 2.5 GPA in professional core.

HDFS-491 Internship in Human Development and Family Studies

(4-8 cr.)

Repeatable for Credit: Yes

Internship experience in human development and family studies. Student will be placed in community agency or organization and supervised by site supervisor.

Department Consent

Prerequisite: take HDFS-490; must have 2.5 GPA in the professional core and program director approval

PSYC-361 Abnormal Psychology

(3 cr.)

Repeatable for Credit: No

Symptoms, causes, and treatment of various psychological disorders; historical changes in conceptualization and classification of psychological disorders; ethical, legal, and professional issues associated with psychological disorder diagnosis and treatment.

Electives (6 credits)

Select additional courses to fulfill the 120-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Note(s):

The B.S. Human Development and Family Studies undergraduate degree program at the University of Wisconsin-Stout has been reviewed by the [National Council on Family Relations](#). It has been recognized as an NCFR CFLE-approved program offering coursework covering the content required for the Certified Family Life Educator (CFLE) designation. Graduates of NCFR CFLE-approved programs qualify to apply for the CFLE designation via an Abbreviated Application process.

Student-Designed Emphasis or Minor (15 credits)

Students complete the degree with selectives chosen in consultation with their advisor, program director, or any minor in consultation with the advisor. Select courses with the following prefixes: ART, BIO, COMST, COUN, STE, ECE, EDUC, FCSE, FN, HDFS, LIT, MUSIC, PSYC, REHAB, SCOUN, SOC, SOCWK, SPED.

Industrial Design, B.F.A.

Go to [program website](#)

Industrial Design, B.F.A.: 4-year sequence

Introduction

The Bachelor of Fine Arts (BFA) in Industrial Design program prepares students for careers in the field of contemporary product design. UW-Stout industrial design graduates hold successful careers designing a wide array of products including medical devices, prosthetics and bicycles, as well as household and industrial products, tools and devices. The success of our students is derived from a program that highlights the intersections of fine art, design, history, sustainability and a strong liberal arts education.

The BFA in Industrial Design program provides a comprehensive applied learning environment that prepares graduates for a successful career in the field of contemporary product design. Industrial designers create and develop concepts and designs that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer. As part of their program, students in the industrial design program are required to participate in a regional, national or international co-op or internship. UW-Stout also provides numerous opportunities to study abroad internationally.

A required mid-program benchmark portfolio review offers industrial design students an assessment of their progress in foundation art and design courses. Extensive library resources and the art and design department visual resource center are significant assets. A 2.0 overall grade point average and a 2.5 or better in art and design department courses is required to complete this degree. Students must present a portfolio of their work in the final two semesters of their program, as part of a public exhibition hosted by the School of Art and Design.

This UW-Stout degree is one of only two industrial design programs in Wisconsin and Minnesota, and is accredited by the National Association of Schools of Art and Design.

General Requirements Bachelor of Fine Arts Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

DES-150 Introduction to Sustainable Design and Development

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination of theory and practice of sustainable development and the influential role of design.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Studio and Related Requirements (47 credits)

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-211 Contemporary Sculptural Practices I

(3 cr.)

Repeatable for Credit: No

Introduction to sculptural concepts.

Prerequisite: take ART-103 with a grade of "C" or better

DES-205 Design Drawing and Concept Visualization

(3 cr.)

Repeatable for Credit: No

Comprehensive education and training in developing, visualizing, and communicating design ideas through drawing.

Prerequisites: take ART-200 with a grade of C or better

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

DES-231 Industrial Design 1: Product Form and Visualization

(3 cr.)

Repeatable for Credit: No

Introduction to Industrial Design, with an emphasis on aesthetics, visualization, and the process of designing new products.

Prerequisite: take ART 103 and ART 200 each with a C or better

Corequisite: take DES 205 with a C or better

DES-232 Industrial Design 2: Ergonomics

(3 cr.)

Repeatable for Credit: No

Study and application of human factors to the design of products. Understand the human body and its limitations to create a product that is comfortable, safe, and easy to use.

Prerequisite: take DES 205 and DES 231 each with a C or better

DES-310 Graphic Design I

(3 cr.)

Repeatable for Credit: No

Exploration of the formal qualities of creating effective and informative design. Foundational design elements including line, shape, form and texture; compositional principle concepts of balance, contrast, grid structures and hierarchy.

Prerequisites: take ART-101 or DES-210, each with a grade of C or better

DES-331 Industrial Design 3: Product Interface Design

(3 cr.)

Repeatable for Credit: No

Designing products and their interfaces to make them understandable, easy to use, safe, and appealing.

Prerequisites: take DES 232 with a grade of C or better, and ETECH-110

DES-332 Industrial Design 4: Design for Manufacture

(3 cr.)

Repeatable for Credit: No

Overview of common materials and manufacturing techniques and application to the design of mass-produced products.

Prerequisites: take DES 331 with a C or better and take ETECH 110

DES-405 Advanced Design Drawing

(3 cr.)

Repeatable for Credit: No

In-depth study of illustration and presentation styles within various design contexts. Development of drawing skills in traditional and digital media, emphasizing perspective, form, and texture. Emphasis on rapid freehand, conceptual drawing as a means to imagine and develop design concepts.

Prerequisites: take DES 205 ; MFAiD students need Program Director approval

DES-431 ID5: Industrial Design Senior Studio I

(3 cr.)

Repeatable for Credit: Yes

Exploration of advanced industrial design topics through extensive projects with consideration given to contextual and environmental issues. topics and projects rotate each semester. Department consent

Prerequisite: take DES-331 and DES-332 with a grade of C or better

DES-432 ID6: Industrial Design Senior Studio II

(3 cr.)

Repeatable for Credit: No

Execution of advanced industrial design projects through all phases of current industrial design process.

Prerequisites: take DES 431 with a grade of C or better

- DES-XXX Field Experience or Cooperative Education (2.00 cr.)

Art Studio Selective Requirements (12 credits)

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

ART-300 Drawing III

(3 cr.)

Repeatable for Credit: Yes

Advanced drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: take ART-200 with a grade of C or better

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

ART-311 Contemporary Sculptural Practices II

(3 cr.)

Repeatable for Credit: No

Continued investigation into contemporary sculptural practices with an emphasis upon expanded research, development of concepts, and exploration of materials.

Prerequisite: take ART-211 with a grade of "C" or better

DES-200 Design Concepts and Problems

(3 cr.)

Repeatable for Credit: No

Comprehensive understanding of the processes, techniques, and concepts used by designers to arrive at innovative and successful design solutions.

Prerequisites: take ART-101 and ART 103, each with a grade of C or better

DES-320 Furniture Design

(3 cr.)

Repeatable for Credit: No

Design and construction of contemporary furniture.

Prerequisites: take DES 231 or DES 232 or DES-303 with a grade of C or better

- ART/DES-XXX Art Selective or Design (1.00-3.00 cr.)

Art History Requirements (9 credits)

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-319 History of Design

(3 cr.)

Repeatable for Credit: No

Survey of the history of modern design since its origins in the late Renaissance.

Prerequisites: take ARTH-224 with a grade of C or better and ENGL-101/ENGL-111

- ARTH-XXX Art History Selective or Aesthetics (3.00 cr.)

Technical Requirements (12 credits)

ETECH-110 Materials and Manufacturing Processes

(3 cr.)

Repeatable for Credit: No

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

ETECH-202 Welding and Casting Processes

(3 cr.)

Repeatable for Credit: No

Lab intensive class utilizing various processes and parameters in the welding and foundry areas.

Prerequisite: take ETECH-110

ETECH-204 Polymer Processes

(3 cr.)

Repeatable for Credit: No

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products.

Prerequisite: take ETECH-110

ETECH-256 Engineering Graphics Fundamentals and Solid Modeling

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate CAD (modeling) software, visualization, geometric concepts and dimensioning basics.

ETECH-266 Engineering Graphics Surface Modeling & Rendering

(3 cr.)

Repeatable for Credit: No

Development of three-dimensional surface models and rendered images. Organic surface modeling to create models with complex curved surfaces. Rendered images to communicate model concepts.

Prerequisite: take ETECH 210 or ETECH 256

Information and Communication Technologies, B.S.

Go to [program website](#)

Introduction

UW-Stout's Bachelor of Science degree in Information and Communication Technologies (ICT) provides a flexible program of study for high school graduates, technical and two-year college graduates and working professionals. Our accessible program and co-op internship opportunities provide flexibility to prepare for a path tailored to your personal and professional goals.

Since innovation of computing and the Internet have continued to transform the global economy and society, the need for graduates with information and communication technologies skills continues to increase. The B.S. in Information and Communication Technologies offers a variety of contemporary technical verticals through use of program approved academic minors and professional certificates.

The B.S. ICT program also offers:

- On-campus and online delivery modes
- Opportunity to build on previously completed education
- Course credit from relevant professional experience
- Preparation for management leadership challenges

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Studies	26-28 credits
Elective Track OR Minor Track	
Elective Track	12-14 credits
Technical Specialty and/or Transfer	40 credits
Minor Track	18-27 credits
Technical specialty and/or Transfer	24-36 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

Social Responsibility and Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Professional Studies, Elective Track OR Minor Track and Technical Specialty and/or Transfer must total a minimum of 80 credits.

Professional Studies (26-28 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

ICT-100 Introduction to Information and Communication Technologies

(1 cr.)

Repeatable for Credit: No

Survey of changes, challenges, opportunities in business and industry for the information and communication technologies professional. Program advisement, course sequence, career pathways and job opportunities.

B.S. in Information and Communication Technologies majors only

ICT-255 Basic Data Concepts

(3 cr.)

Repeatable for Credit: No

Database application exploration in an enterprise context with basic data concepts, principles and guidelines of relational database design, common entity relationships, basic queries, and security and data integrity.

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

ICT-355 ICT Systems Analysis and Design

(3 cr.)

Repeatable for Credit: No

Information and communication technologies (ICT) systems analysis and design methods supporting contemporary enterprise. Includes roles, relationship to systems development life cycle (SDLC) reflecting contemporary ICT systems analysis and design practice, methodologies and ICT project management.

Prerequisites: take ICT 255 and ICT 305

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

Experiential Learning Requirement (1-3 credits)

ICT-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ICT-498 Field Experience

(1-3 cr.)

Repeatable for Credit: No

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Elective Track or Minor Track

Select either the Elective Track OR the Minor Track:

Elective Track

Includes Elective Courses & Technical Specialty and/or Transfer courses

Elective Track (12-14 credits)

Select 12-14 unique credits from the following courses or advisor approved courses.

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

DMT-485 Search Engine Optimization

(3 cr.)

Repeatable for Credit: No

Contemporary application of strategies and technology related to the improvement of placement in search engine and other relevant search results.

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

ICT-401 Information Technology Policy and Audit

(3 cr.)

Repeatable for Credit: No

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take ICT-305 and BUACT-206

ICT-405 Enterprise Technology Seminar

(3 cr.)

Repeatable for Credit: No

Trends in enterprise technology, including: systematic development processes to solve business problems and support business processes, identification and use of contemporary enterprise technology solutions, sources of enterprise technology support, training and information and enterprise technology credentialing and career opportunities.

Prerequisite: take ICT 355

INMGT-314 Enterprise Resource Planning Practicum

(3 cr.)

Repeatable for Credit: No

Practice of the functions within an enterprise, through the Enterprise Resource Planning System. Systems, Applications, and Products (SAP) virtual enterprise platform used to demonstrate how the physical work flow, electronic information exchange and financial flow are integrated into an enterprise.

Prerequisites: take INMGT 200 or INMGT 210 or BUMIS 333 or ICT 305

Technical Specialty and/or Transfer (40 credits)

Select courses and/or transfer credits with the following prefixes: CS, CNIT, DMT, GCOM, ICT, PHOTO, or VID.

Minor Track

Includes Program Approved Minor & Technical specialty and/or Transfer courses.

Minor Track Options (18-27 credits)

Select a Program Approved Minor:

- Computer Networking Systems and Design
- Computer Science
- Cyber Security and Cyber Defense - Computer Networking Professional Development Certificate
- Digital Marketing
- Enterprise Technology
- Graphic Media and Print Management
- Information and Security Management
- Photography and Video
- Project Management
- Web Technology

Technical Specialty and/or Transfer (25-36 credits)

Select courses and/or transfer credits with the following prefixes: CS, CNIT, DMT, GCOM, ICT, PHOTO, or VID.

Interior Design, B.F.A.

Go to [program website](#)

Interior Design, B.F.A.: [4-year sequence](#)

Introduction

The Bachelor of Fine Arts (*BFA*) in Interior Design program prepares students for careers in interior design and related industries. Graduates of UW-Stout's program have careers in large corporations, architectural design firms as well as specialized interior design firms. The success of our students is derived from a program that highlights the intersections of fine art, design, history, sustainability and a strong liberal arts education.

Interior design courses integrate art, design and history to fully prepare interior design students to create meaningful, safe and lifeenhancing interior environments that contribute to the cultural, social and environmental well-being of society. The technical courses in the engineering and construction departments are supported by industry standard software and hardware. Interior design students have the opportunity to study internationally and pursue internships at regional and national firms.

A required mid-program portfolio review offers students an assessment of their progress in foundation art and design courses. Extensive library resources and the art and design department visual resource center are significant assets. A 2.0 overall grade point average and a 2.5 or better in art and design courses are required for graduation.

General Requirements Bachelor of Fine Arts Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytical reasoning and natural sciences. At least one mathematics or statistics course and one natural science course with a lab is required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Remaining courses must be from areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

DES-150 Introduction to Sustainable Design and Development

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination of theory and practice of sustainable development and the influential role of design.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Studio and Related Requirements (53 credits)

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

DES-114 Interior Design Communication Tools

(3 cr.)

Repeatable for Credit: No

Introductory study of the design process, software and communication tools used within the interior design industry.

DES-200 Design Concepts and Problems

(3 cr.)

Repeatable for Credit: No

Comprehensive understanding of the processes, techniques, and concepts used by designers to arrive at innovative and successful design solutions.

Prerequisites: take ART-101 and ART 103, each with a grade of C or better

DES-205 Design Drawing and Concept Visualization

(3 cr.)

Repeatable for Credit: No

Comprehensive education and training in developing, visualizing, and communicating design ideas through drawing.

Prerequisites: take ART-200 with a grade of C or better

DES-214 Interior Design Practice, Materials and Finishes

(3 cr.)

Repeatable for Credit: No

Introductory study of interior design professional practice, contemporary interior design issues, materials and finishes used within the built environment.

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

DES-303 Interior Design Studio I

(3 cr.)

Repeatable for Credit: No

Experiential study of the fundamental principles and elements of interior design and their application to a range of residential design projects. Projects emphasize residential space planning based on functional requirements, application of various elements of design, and design communication methods.

No

Prerequisite: take DES 114

DES-304 Interior Design Studio II

(3 cr.)

Repeatable for Credit: No

Experiential study of the principles and elements of interior design as applied to a range of projects and end-user populations. Studio design projects emphasize project development, end-user needs, codes, varied building typologies, and design communication methods.

Prerequisites: take ETECH-205 or DES-303 with a grade of C or better

DES-308 Lighting Design in the Built Environment

(3 cr.)

Repeatable for Credit: No

Exploration and application of professional lighting design practice within the built environment including psychological and physiological aspects of artificial and natural light, effects of color, directional effects, materials, design process, aesthetics, codes, energy conservation, and sustainability.

Prerequisite: take DES-303 with a grade of C or better

DES-314 Interior Design Contracts and Codes

(3 cr.)

Repeatable for Credit: No

Study of interior design professional practice, industry regulations and product specifications.

DES-320 Furniture Design

(3 cr.)

Repeatable for Credit: No

Design and construction of contemporary furniture.

Prerequisites: take DES 231 or DES 232 or DES-303 with a grade of C or better

DES-414 Interior Design Construction Documentation

(3 cr.)

Repeatable for Credit: No

Advanced interior design specification and construction documentation, incorporating elements of current professional practice.
Prerequisite: take DES 114 with a grade of C or better

DES-415 Interior Design Studio 3

(3 cr.)

Repeatable for Credit: No

Advanced experiential study of the principles and elements of interior design and their application to a range of commercial design projects. Studio design projects emphasize conceptual development, space planning, building code and accessibility compliance.

Prerequisite: take DES 304 with a grade of C or better

DES-416 Interior Design Senior Studio

(4 cr.)

Repeatable for Credit: No

Exploration of advanced interior design ics, including sustainability, through an extensive project(s) to include all phases of current interior design professional practice and incorporation into students portfolio.

Prerequisites: take DES-308 and DES-414, each with a grade of C or better

- DES-XXX Co-op or Field Experience (1 cr.)

Art Studio Selective Requirements (9 credits)

Course options include painting, ceramics, contemporary sculptural practices, metals, life drawing, printmaking or co-op experience.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Art History Requirements (9 credits)

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-319 History of Design

(3 cr.)

Repeatable for Credit: No

Survey of the history of modern design since its origins in the late Renaissance.

Prerequisites: take ARTH-224 with a grade of C or better and ENGL-101/ENGL-111

ARTH-333 History of Interiors and Furnishings

(3 cr.)

Global Perspective

Repeatable for Credit: No

A survey of the history of interior design, furniture, and household objects since ancient Egypt.

Technical and Related (9 credits)

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

AEC-191 The Built Environment

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Construction and its relationship to resources, materials, and the culture in which it takes place. Discussion of significant historical and

modern structures. Emphasis on how, why, and by whom structures are built and what can be learned from them.

Management, B.S.

Go to [program website](#)

Introduction

The Bachelor of Science in Management program is a degree completion program that strengthens students with progressive career experience in preparation for advancing in mid-level, senior Management/Leadership positions in a wide range of business and manufacturing industries. Graduates of UW-Stout's *BSM* program have careers that embrace administrative management and supervision, human resources, training and development, general operations, industrial production, supply chain, purchasing, product development, quality control systems, sales and management analysts. The success of our students is derived from a program builds a core of management/leadership competencies while highlighting concentrations in business, human resources, operations, quality and project management.

The management based coursework integrates responsiveness to customer needs; coordination/supervision of people; management of design; implementation and evaluation of processes and resources; infusion of leadership techniques with professional communication; managing quality standards for services; and utilization of complex problem solving with data decision making with financial operations, performance, productivity and goal achievement, building and leading teams, assessing ongoing performance of yourself, others and the organization. The technical courses within the Management Core are supported by the Operations and Management and Business departments infused with industry software and hardware. A concentration course in Business and Professional Speaking is supported by the Department of Communication Studies, Foreign Languages, and Performing Arts.

A required professional portfolio offers students the ability to culminate career experiences and serves as a foundation for skill development from the management operations and business courses preparing for future careers. An extensive network with campus resources form a support system for students contributing to their success with degree completion. Opportunities for acquiring credits for work experience and expanding professional experience with credits are explored with students in *INMGT 100: Introduction to Online Management* course which is the first course of the program. A professional portfolio is updated at the completion of the program infuses future long term career performance opportunities. Students should possess progressive career experience. A 2.0 grade point average is required for graduation.

Total for graduation 120 credits with 32 credits required for residency. The breakdown includes general education requirements with 40 credits, Technical Emphasis at 36 credits, Management Core Courses with 26 credits and each of the five concentrations at 18 credits. The concentrations include Business, Human Resource, Operations, Quality and Project Management.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Technical Emphasis	36 credits
Major Studies	26 credits
Concentration	18 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology, and sociology.

ECON-201 General Economics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to basic economic principles and methods. Microeconomics deals with choices of consumers and firms, market structure, price theories, and taxes. The course covers macroeconomics issues such as national income (GDP), economic growth and development, employment, inflation, money and Federal Reserve, interest rate, investment, the exchange rate, and International Trade.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Selected from GE-approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Technical Emphasis (36 credits)

Because each student brings different qualifications as a result of prior training and experience, the student, with the assistance of the program director, will define all 40 technical credits in terms of student and job competency needs.

Major Studies

Management Core (26 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

INMGT-100 Introduction to Online Management Program

(2 cr.)

Repeatable for Credit: No

This course provides an acclimatization to the Bachelor of Science Degree in Management program, orientation to online learning, establish professional goals, grasp concepts of leadership and management, use an ethical model for decision making, track prior learning, self-management, and produce a program plan schedule leading to graduation.

For B.S. in Management majors only.

INMGT-200 Production and Operations Management

(3 cr.)

Repeatable for Credit: No

A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.

Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBok). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-460 Management Capstone

(3 cr.)

Repeatable for Credit: Yes

This course is intended to integrate the knowledge and skills learned from BS in Management program into a strategic business

model generation and development of professional portfolio. Emphasis is placed on strengthening self-awareness and professional performance to grow future management/leadership capacity leading to transformation of career-long performance.

Prerequisite: Must be Senior level or higher

Concentrations

Business Management (18 credits)

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

BUMGT-490 Strategic Management and Business Policy

(3 cr.)

Repeatable for Credit: No

Formulate, implement, and evaluate strategies in the context of a dynamic, global business environment. Optimize critical thinking, reasoning, problem solving and presentation skills while becoming familiar with the knowledge, roles, and responsibilities required of managers.

Prerequisites: Must be Senior level or higher; take BUMKG-330 and BUFIN 340 ; and take ECON-201 or ECON-210

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

INMGT-416 People Process Culture

(3 cr.)

Repeatable for Credit: No

High performing people process culture organizations; integration of sociology, applied psychology, and organization behavior subject matter areas.

Prerequisite: take INMGT 400

BUMKG-334 Professional Selling and Market Development

(3 cr.)

Repeatable for Credit: No

Overview of selling as a profession; building relationships; the selling process, including prospecting, preparing, presenting, handling objections, closing, and servicing accounts; developing markets; and territory management.

Prerequisites: take BUMKG-330

INMGT-482 Business Analytics

(3 cr.)

Repeatable for Credit: No

Business needs and technology trends in analytics. Practical application of business analytic tools to determine key business performance indicators and use of these indicators to drive business and operations management decisions and actions.

Prerequisites: INMGT 314 and STAT 130 or MATH 123

Human Resource Management (18 credits)

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

INMGT-415 Inclusivity in Leadership

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

An examination of leadership dynamics for but not limited to women, people of color and other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations.

Prerequisites: take SOC-110 and either INMGT-400 or BUMGT-304

INMGT-416 People Process Culture

(3 cr.)

Repeatable for Credit: No

High performing people process culture organizations; integration of sociology, applied psychology, and organization behavior subject matter areas.

Prerequisite: take INMGT 400

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Operations Management (18 credits)

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of

ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

Project Management (18 credits)

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing

database reports.

Prerequisite: take BUACT-206

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-475 Advanced Project Management

(3 cr.)

Repeatable for Credit: No

Advanced planning, control, and leadership of technical projects and programs. Topics covered include: project and program justification, project management maturity and methods, multiple project or portfolio management, project management in multinational cultures, virtual project teams, requirements definition, and outsourcing.

Prerequisites: take INMGT-365 or AEC-471. Senior standing.

INMGT-486 Project Management Practicum

(3 cr.)

Repeatable for Credit: No

Capstone experience. Project management applications. Students will take the Certified Associate in Project Management (CAPM) exam. Students apply project management tools and techniques to manage practical projects.

Quality Management (18 credits)

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-420 Quality Assurance-Practicum

(3 cr.)

Repeatable for Credit: No

Application of principles and techniques learned in INMGT-320, as part of Professional Semester/ Manufacturing Laboratory.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMG-200

Manufacturing Engineering, B.S.

Go to [program website](#)

Manufacturing Engineering, B.S.: 4-year sequence

Introduction

The Bachelor of Science degree program in Manufacturing Engineering is designed to prepare engineers as experts in the production process, from design through manufacturing. As a team member, the manufacturing engineer works with other professionals in the design of products, particularly from the point of view of the efficiency of production. They are responsible for selecting the right materials for various product applications and for determining methods used in processing raw materials into finished products. Using computers, they design and control automated systems capable of rapidly making the product. Manufacturing Engineers are part of the company's management team and make important decisions regarding production planning, inventory, scheduling and quality.

To be admitted to the B.S. in Manufacturing Engineering program, students must have graduated in the top 40 percent of their class or, for high schools that do not rank, have a cumulative grade point average of at least 3.0 on a 4.0 scale or receive a composite score of 22 or greater on the ACT or equivalent score or greater on the SAT (*ACT is preferred*). In addition, an ACT math score of at least 22 or equivalent score on the SAT is required.

Through intensive hands-on laboratory experience, which is the heart of UW-Stout's teaching strategy, the program emphasizes application of theory to solution of real world problems. Manufacturing Engineering students learn modern production tools, such as computer-aided design and manufacturing (CAD/CAM), robotics, programmable logic controllers, computer simulation of production environment and modern manufacturing management techniques. Students have opportunities to function as members of production teams as they practice concurrent product design, material selection, appropriate manufacturing method selection, and automated production systems design.

The UW-Stout Manufacturing Engineering degree is accredited by the Engineering Accreditation Commission of ABET. It is the only nationally accredited manufacturing engineering degree in Wisconsin. There are many opportunities for cooperative learning and internship experiences with regional companies, providing industrial experience and that extra "edge" when applying for jobs upon graduation.

General Requirements Bachelor of Science Degree

Total for graduation	129 credits
General Education	40 credits
Major Studies	89 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (13 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

**ETECH-100 can alternatively be used to satisfy Social Responsibility and Ethical reasoning*

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (88 credits)

Mathematics and Basic Sciences (21 credits)

CHEM-341 Chemistry of Materials

(4 cr.)

Repeatable for Credit: No

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.

Prerequisite or co-requisite: MATH-154 or concurrent enrollment

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

Engineering Core (14 credits)

ENGR-290 Circuits and Devices

(4 cr.)

Repeatable for Credit: No

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits.

Prerequisites: take MATH-154 and PHYS-282

ENGR-294 Mechanics of Materials

(3 cr.)

Repeatable for Credit: No

Normal and shear stresses and strains. Stresses and deformations in objects subject to axial, torsional, and flexural loadings. Shear and bending moment diagrams. Stress transformations and principle stresses.

Prerequisite: take PHYS-291

ENGR-275 Thermodynamics & Heat Transfer

(3 cr.)

Repeatable for Credit: No

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisite: take PHYS-291 and MATH-250 (which may be taken concurrently)

ENGR-391 Fluid Mechanics

(3 cr.)

Repeatable for Credit: No

Fundamentals and engineering applications of fluid mechanics.

Prerequisite: take ENGR-275 or ME 390

MFGE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

MFGE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Materials and Manufacturing Processes (18 credits)

ENGR-315 Metallurgy

(3 cr.)

Repeatable for Credit: No

Properties of crystalline solids, mechanical behavior, phase diagrams, iron-carbon diagram, metallurgical structure, diffusion, phase transformation and heat treatment. Processing, properties, and applications of ferrous and non-ferrous alloys.

Prerequisite: take CHEM 341

MFGE-351 Manufacturing Process Engineering I

(3 cr.)

Repeatable for Credit: No

Engineering analysis and control of machining and metal forming processes. Design and manufacturing process development for machining and/or metal forming. Implement design tools to meet design requirements and create effective manufacturing processes.

Prerequisites: take CHEM-341, ENGR-294, ETECH-252, ENGR-275, and STAT-330

MFGE-352 Manufacturing Process Engineering II

(3 cr.)

Repeatable for Credit: No

Analysis of polymer, metal, and ceramic behavior in processing, through the understanding of structure-process-property relationships. Mathematical modeling of process design, incorporating heat transfer and non-Newtonian fluid mechanics.

Prerequisites: take ETECH-251, ETECH-253, ENGR-294, ENGR 391, and STAT-330

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products.

Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

Process, Assembly and Product Engineering (12 credits)

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

MFGE-405 Capstone I: Concurrent Design

(3 cr.)

Repeatable for Credit: No

Concurrent product design and development. Concept of design; brainstorming, problem solving, and creativity methods. Engineering methods. Design analysis, solid modeling, finite element analysis and information sources. Development of teamwork and communications skills. Consideration of cell needs and limitations.

Prerequisites or Corequisites: take MFGE-351, MFGE-352, and MFGE-441

MFGE-441 Design Of Jigs, Fixtures, And Tooling

(3 cr.)

Repeatable for Credit: No

Design of tooling used for machining, locating and transferring multiple parts for fixed and flexible manufacturing. Design, setup and development of tooling for robots, computer numerical control machines and other production equipment. Transfer line tooling.

Prerequisites: ETECH-252, ETECH-210, and ENGR-294

Manufacturing Integration Methods and System Design (15 credits)

ENGR-325 Computer Aided Manufacturing for Manufacturing Engineers

(3 cr.)

Repeatable for Credit: No

Effects of product mix and demand patterns on manufacturing system design and selection of process control methods. Introduction to quick changeover strategies and reprogrammable automation including numerically controlled machine tools, robotics, group technology, CAD/CAM, automated inspection and other computerized processing techniques.

Prerequisites: take ETECH-210, and take ETECH-252 or ETECH-341

MFGE-410 Capstone II: Manufacturing System Design

(3 cr.)

Repeatable for Credit: No

Dedicated and flexible manufacturing systems through the design, building and testing of a flexible manufacturing cell that produces a discrete family of parts, design of part transfer, tooling, sensing, production control and integrated inspection systems will be emphasized.

Prerequisite: Take MFGE-405; Prerequisites or corequisites: ENGR-325, ENGR-363, and ENGR-415

ENGR-415 Machine Vision and Robotics

(2 cr.)

Repeatable for Credit: No

Design of machine vision and industrial robotic applications, including cost justification.

Prerequisites: take INMGT-300 and ENGR 292

ENGR-363 Controls and Instrumentation

(4 cr.)

Repeatable for Credit: No

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control. Introduction to motion control.

Prerequisites: take MATH-250

MFGE-440 Manufacturing System Design and Simulation

(3 cr.)

Repeatable for Credit: No

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical reports summarizing projects.

Prerequisite or Corequisite: take INMGT-335

MFGE-640 Manufacturing System Design And Simulation

3 cr.

Repeatable for Credit: No

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical reports summarizing projects.

Manufacturing Competitiveness (9 credits)

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-335 Lean Manufacturing Systems

(4 cr.)

Global Perspective

Repeatable for Credit: No

An introduction to production/operations management and lean manufacturing system design for engineers. Emphasis is given to analysis and design of production systems, facility layout, and globalization.

Prerequisite: take STAT-330

INMGT-422 Quality Engineering

(3 cr.)

Repeatable for Credit: No

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

STAT-330 or higher level Statistics

INMGT-622 Quality Engineering

(3 cr.)

Repeatable for Credit: No

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

Marketing and Business Education, B.S.

Go to [program website](#)

Introduction

Are you creative and like to direct and plan activities for others? Are you interested in enhancing your knowledge and skills to better express your passion for marketing and business? UW-Stout's Marketing and Business Education program combines all of these interests into one program.

The disciplines of marketing and business contribute significantly to the intellectual and career development of students in an age of innovation and invention. Graduates of the program will be prepared to teach in middle and secondary classrooms. Graduates are also prepared to enter careers in business and industry that expand on their real-world experience.

The program is also offered with a distance option for geographically bound students seeking teacher certification.

General Requirements Bachelor of Science

Total for graduation	123-140 credits
General Education	40 credits
Major Studies	83-100 credits

Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified to teach Marketing in Wisconsin. Students enter the program with "pre-education" status. Earning a 2.75 or better grade point average and passing a required skills test will formally move them into the Marketing Education program.

Note: Students are required to maintain a 2.75 grade point average throughout the marketing and business education program. Grade point of 2.0 (C) or better is required in each designated * course prior to student teaching.

Marketing and Business Education, B.S. (On Campus)

- Marketing and Business Education, B.S. (Marketing Education License)
- Marketing and Business Education, B.S. (Business Education License)
- Marketing and Business Education, B.S. (Marketing and Business Dual License)

Marketing and Business Education, B.S. (Distance Delivery)

- Marketing and Business Education, B.S. (Marketing Education License - Distance Delivery)
- Marketing and Business Education, B.S. (Business Education License - Distance Delivery)
- Marketing and Business Education, B.S. (Marketing and Business Dual License - Distance Delivery)

Mechanical Engineering, B.S.

Go to [program website](#)

Mechanical Engineering, B.S.: 4-year sequence

Introduction

Mechanical Engineering Students will gain experience through hands on training at the University of Wisconsin - Stout. Mechanical Engineering is a diverse discipline that is involved with the design and manufacture of nearly everything from micro-scale objects to machine tools and airplanes. The mechanical engineering program at UW-Stout will prepare graduates for successful careers in the mechanical engineering related professions and other career paths. Students will be prepared for the Fundamentals of Engineering (FE) exam administered by the National Council of Examiners for Engineering and Surveying (NCEES) upon graduation.

General Requirements Bachelor of Science Degree

Total for graduation	129 credits
General Education	40 credits
Major Requirements	89 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytical Reasoning and Natural Sciences (13 credits)

MATH-151 Calculus with Precalculus B

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Second course in a two-course sequence. Properties, identities, and derivatives of exponential, logarithmic, and trigonometric functions. Affine transformations and graphing, linear systems of equations, and geometric applications of trigonometry. Integration and the Fundamental Theorem of Calculus.

Prerequisite: Completion of MATH-150

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology, and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be from the list of approved cross-disciplinary issues courses.

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

ETECH-100 can alternatively be used to satisfy Social Responsibility and Ethical reasoning

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Requirements (89 credits)

Mathematics and Basic Sciences (21 credits)

CHEM-341 Chemistry of Materials

(4 cr.)

Repeatable for Credit: No

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

MATH-158 Calculus III

(3 cr.)

Repeatable for Credit: No

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisite: take MATH-154 or MATH-157

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices,

determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.
Prerequisite: take MATH-154 or MATH-157

ME-352 Introduction to Numerical Methods in Engineering

(3 cr.)

Repeatable for Credit: No

Solving engineering problems related to solid mechanics, fluid mechanics, heat transfer, and engineering design through the application of numerical methods.

Prerequisite: take MATH 158, ETECH 100 and MATH 250 or (MATH 255 and MATH 275). Mechanical Engineering students only

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

Engineering Core (9 credits)

ENGR-290 Circuits and Devices

(4 cr.)

Repeatable for Credit: No

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits.

Prerequisites: take MATH-154 and PHYS-282

ENGR-363 Controls and Instrumentation

(4 cr.)

Repeatable for Credit: No

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control. Introduction to

motion control.

Prerequisites: take MATH-250

ME-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

ME-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Engineering Graphics (6 credits)

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

Engineering Mechanics (13 credits)

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-

body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.
Prerequisite or co-requisite: MATH-154 or concurrent enrollment

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

ENGR-294 Mechanics of Materials

(3 cr.)

Repeatable for Credit: No

Normal and shear stresses and strains. Stresses and deformations in objects subject to axial, torsional, and flexural loadings. Shear and bending moment diagrams. Stress transformations and principle stresses.

Prerequisite: take PHYS-291

ME-492 System Dynamics

(4 cr.)

Repeatable for Credit: No

Modeling and analysis of dynamic systems with a focus on mechanical applications. Analysis of electrical, thermal, and fluid elements conducted through the lens of their mechanical analogs. Techniques for the development of time domain solutions and frequency domain solutions including differential equations, block diagram representation, computer simulation, numerical methods, and linearization.

Prerequisites: take ENGR 292 and ME 352. Mechanical Engineering students only

Corequisites: take ENGR 363 and ME 392 (or take as prerequisites)

Thermal Fluid Sciences (9 credits)

ENGR-391 Fluid Mechanics

(3 cr.)

Repeatable for Credit: No

Fundamentals and engineering applications of fluid mechanics.

Prerequisite: take ENGR-275 or ME 390

ME-390 Engineering Thermodynamics

(3 cr.)

Engineering applications of thermodynamics.

Prerequisite: take PHYS 291 and MATH 250 (which may be taken concurrently). Mechanical Engineering students only

ME-392 Engineering Heat and Mass Transfer

(3 cr.)

Repeatable for Credit: No

Introduction to the principles and applications of heat transfer through conduction, convection and radiation, analysis of heat exchangers and fins, and introduction to mass transfer through diffusion.

Prerequisite: take ENGR 391 and ME 352 . Mechanical Engineering students only

Materials and Manufacturing Processes (12 credits)

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ENGR-315 Metallurgy

(3 cr.)

Repeatable for Credit: No

Properties of crystalline solids, mechanical behavior, phase diagrams, iron-carbon diagram, metallurgical structure, diffusion, phase

transformation and heat treatment. Processing, properties, and applications of ferrous and non-ferrous alloys.
Prerequisite: take CHEM 341

Competitive Manufacturing (2 credits)

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

Design (10 credits)

ME-342 Machine Component Design

(4 cr.)

Repeatable for Credit: No

Analysis and design of machine elements and machines; loads, stresses, deflections, material selection, fatigue failure; fasteners, bonding, and springs; mechanical power transmission components including gearing, bearings, shafting, and frictional devices.

Prerequisite: take ENGR 294. Mechanical Engineering students only

ME-405 Capstone I: Concurrent Design

(3 cr.)

Repeatable for Credit: No

Concurrent design of a product or process to solve an industry problem or answer a research question related to Mechanical Engineering. Defining end-user needs, client needs, design objectives and constraints, and metrics for success. Brainstorming, problem solving, and creativity methods. Requires teamwork, problem solving, effective communication skills, and project management.

Prerequisite: Mechanical Engineering students only

Corequisites: take ME 342 and ME 392

ME-410 Capstone II: System Design

(3 cr.)

Repeatable for Credit: No

A study of process and/or product development through 1) applied research and experimentation, or 2) the design, building, and testing of a product assembly or system, used to perform a useful function or solve an industry-based or independent research problem. Process documentation and experimental analyses will be emphasized.

Prerequisites: take ME 405. Mechanical Engineering students only

Corequisites: take ENGR 363 and ME 492 (or take as prerequisites)

Technical Electives (7 Credits)

BIO-362 Advanced Physiology

(3 cr.)

Repeatable for Credit: No

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisites: C or better in BIO-234

PHYS-313 Introduction to Quantum Mechanics: A Modern Physics Approach

(3 cr.)

Repeatable for Credit: No

Introduction to quantum mechanics and its applications to atomic structure, molecular bonds, lasers, properties of condensed matter, and the structure of the nucleus.

Prerequisites: take PHYS 282

PHYS-335 Optics

(3 cr.)

Repeatable for Credit: No

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography.

Prerequisites: take PHYS-282, or take PHYS-242, MATH-154 and MATH-157

PHYS-381 Computational Classical Mechanics

(3 cr.)

Repeatable for Credit: No

Dynamics of particles, harmonic oscillations, central force problems, Lagrangian and Hamiltonian dynamics, and mechanics of rigid bodies, coupled oscillations. Use computational software to solve, analyze, and visualize equations of motion. Develop skills necessary to study advanced physics.

Prerequisites: take PHYS 281 or (PHYS 291 & ENGR 292) AND (MATH 250 or MATH 255)

Any 400/500-level course with prefixes: BIO, CEE, CHEM, CS, ENGR, ETECH, ME, MFGE, PHYS, or PLE

Packaging, B.S.

Go to [program website](#)

Packaging, B.S.: 4-year sequence

Introduction

A packaging career today requires a thorough knowledge of materials, methods, design concepts, and machinery to develop and produce the packages that protect and preserve a product, help market the product and instruct the consumer in its proper use.

UW-Stout's Bachelor of Science degree program in Packaging prepares students for technical or management responsibilities in the packaging industry to meet these needs. The program places strong emphasis on the application of theory to strengthen problem solving abilities and challenges students by providing opportunities to solve "real" packaging industry problems in

classroom/laboratory settings. **A GPA of 2.6 is required.**

The trend in the packaging industry is to hire employees who can function in more than one area at career entry. UW-Stout's Packaging program recognizes this trend by offering the student several "emphasis" options which include course and laboratory work beyond the technical core of the program. This distinguishing feature allows students to draw on other well-recognized programs offered at UW-Stout: graphic arts, graphic design, food science, business and sales, quality and manufacturing, and packaging research and development.

With the quantity and variety of products produced in the world, it is easy to understand that packaging is a dynamic multibillion dollar industry in need of well-educated men and women. Graduates of the program are positioned advantageously for entry into the expanding and evolving packaging industry, as well as for further studies in the field of packaging.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	43 credits
Major Studies	62 credits
Emphasis Area	15 credits
GPA Requirement	2.6

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (43 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (11 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

** Courses require a grade of C or better.*

Arts and Humanities (6 credits)

Remaining course must be from area including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Choose 3 additional credits from one or more areas including anthropology, geography, political science, psychology and sociology.

ECON-201 General Economics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to basic economic principles and methods. Microeconomics deals with choices of consumers and firms, market structure, price theories, and taxes. The course covers macroeconomics issues such as national income (GDP), economic growth and development, employment, inflation, money and Federal Reserve, interest rate, investment, the exchange rate, and International Trade.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (5 credits)

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

**Course require a grade of C or better.*

Major Studies (62 credits)

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

PKG-150 Packaging Fundamentals

(3 cr.)

Repeatable for Credit: No

Explore the purpose of packaging materials and manufacturing methods, including global perspectives, history, environment, market and consumer needs.

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal

(3 cr.)

Repeatable for Credit: No

Technical exploration of paper, wood, adhesives and metal used in packaging worldwide. Material properties and international production processes, applications, environmental impacts of paper, wood, adhesives, and metal.

Prerequisites: take PKG-150 and CHEM-135

PKG-220 Packaging Materials: Polymers and Glass

(3 cr.)

Repeatable for Credit: No

Technical exploration of polymers and glass used for packaging worldwide. Material properties, production processes, applications, environmental impacts of polymers and glass.

Prerequisites: take PKG-150 and CHEM-135, BS Packaging students only

PKG-250 Consumer Packaging Systems

(3 cr.)

Repeatable for Credit: No

The study of packaging from the design concept through production. Lab work on structural design, sample making, and machine operation. Discussions on standard packages and their applications.

Prerequisites: take PKG-210 and PKG-220

PKG-260 Distribution Packaging

(3 cr.)

Repeatable for Credit: No

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations.

Prerequisites: take PKG-210 and PKG-220

PKG-335 Packaging Machinery

(3 cr.)

Repeatable for Credit: No

Weighing, forming, filling, sealing, cartoning, capping, labeling, wrapping, casing, uncasing, palletizing/depalletizing machines as applies to the functional capabilities of speed, materials, containers, and operating functions.

Prerequisites: take PKG-210 and PKG-220

PKG-349 Cooperative Education Experience

(1-2 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work

periods, each one building and expanding on the previous.
Department Consent

PKG-449 Cooperative Education Experience

(1-2 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PKG-350 Packaging Design and Evaluation

(3 cr.)

Repeatable for Credit: No

Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation.

Prerequisites: take PKG-250 and PKG-260, and take PHYS-241 or PHYS-281

PKG-385 Medical Packaging

(3 cr.)

Repeatable for Credit: No

Practical knowledge of special requirements for medical devices and pharmaceuticals packaging. Discussion and evaluation of package systems, packaging procedures.

Prerequisite: take PKG-250

PKG-490 Packaging Development

(3 cr.)

Repeatable for Credit: No

Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer.

Prerequisites: take PKG-349 and PKG-350

PKG-495 Packaging Seminar

(3 cr.)

Repeatable for Credit: No

Current packaging problems or developments (subject based on students' interests and current issues).

Prerequisites: PKG-349 and Senior Standing

All PKG courses require a grade of "C+" or higher.

Professional/Management (18 credits)

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

INMGT-200 Production and Operations Management

(3 cr.)

Repeatable for Credit: No

A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.

Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as

communication, motivation, leading, team building, building credibility, and conflict management.
Must be Senior level or higher

Emphasis Area (15 credits)

Select 15 credits from an emphasis area. Current emphasis areas available include:

Food Technology Emphasis (15 credits)

Required Concentration Courses (7 credits).

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

FN-410 Food & Nutrition Policy Regulation & Law

(3 cr.)

Repeatable for Credit: No

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review.

Emphasis Selectives (8 credits)

Select a minimum of 8 credits below:

FN-240 Food Science

(4 cr.)

Repeatable for Credit: No

Understanding the Science of Food through physical, chemical, and microbiological changes affecting storage, processing and distribution of various food products.

Prerequisite: take CHEM-201

FN-350 Unit Operations in Food Processing

(3 cr.)

Repeatable for Credit: No

Principles, technology, and application of unit operations in food processing; laboratory and pilot-scale processing of food and agricultural commodities; quantitative measurements and analysis of unit operations.

Prerequisite: take FN-240

FN-400 Food Quality

(4 cr.)

Repeatable for Credit: No

Applications of qualitative and quantitative tools in conjunction with statistical methods to implement quality management in the food industry.

Prerequisites: Take FN-350, and take either STAT 130 or STAT-320

FN-402 Food Microbiology

(3 cr.)

Repeatable for Credit: No

Application of microbiology concepts relevant to food products; analysis for food spoilage microorganisms and foodborne pathogens based on conventional methods; molecular detection techniques; intrinsic and extrinsic parameters for food preservation.

Prerequisite: take BIO-306

FN-425 Food Chemistry

(3 cr.)

Repeatable for Credit: No

Chemical structure and properties of food components, including water, carbohydrates, protein, lipids, other nutrients and food additives; chemical reactions of food components during processing, storage and utilization.

Prerequisite: take FN-240

FN-435 Food Analysis

(3 cr.)

Repeatable for Credit: No

Principles and methods in analysis of nutritive and bioactive components in food; nutrient and ingredient characterization; analytical methods in food quality and safety assurance; standard methods in the food quality control laboratory.

Prerequisite: take CHEM-315

FN-442 Basic Sensory Analysis

(3 cr.)

Repeatable for Credit: No

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/ acceptance tests.

Appropriate for all majors who produce products for/or merchandise to consumers.

Prerequisite: FN-124 or FN-240

FN-450 Food Engineering

(3 cr.)

Repeatable for Credit: No

Application of pertinent chemistry, physics and mathematics principles to food processing.

Prerequisites: take MATH-153, or MATH 156 , PHYS 211 and FN-350

FN-465 Food Product Development

(3 cr.)

Repeatable for Credit: No

Food ingredient properties; integrated application of professional competencies for food product development.

Prerequisite: take FN-350

International Studies (15 credits)

Course plan must be approved by packaging Program Director.

Package Design, Research and Development (15 credits)

Required Concentration Courses (9 credits).

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

ET-290 Statics and Dynamics

(3 cr.)

Repeatable for Credit: No

Force systems and equilibrium in 2 and 3 dimensions, free body diagrams, trusses, frames, friction. Kinematic analysis of particle and rigid body translation, rotation, and general plane motion. Force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, and forced vibrations.

Prerequisites: take PHYS-241 or PHYS-281 and MATH 153

ET-291 Strength of Materials

(3 cr.)

Repeatable for Credit: No

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

Prerequisite: take ET 290

Emphasis Selectives (6 credits)

Select a minimum of 6 credits below:

ETECH-420 Engineering Graphics Applications

(3 cr.)

Repeatable for Credit: No

Applications of contemporary software and hardware used to produce solutions for mechanical engineering design. Design to requirements, parametric three dimensional modeling, additive manufacturing, and Geometric Dimensions and Tolerances.

Introduction to advanced tools used for design optimization and efficiency.

Prerequisite: Take ETECH-210

ETECH-303 Computer Aided Manufacturing

(3 cr.)

Repeatable for Credit: No

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation.

Prerequisites: take ETECH-252 and ETECH 210

ET-320 Prototype Development and Model Making

(3 cr.)

Repeatable for Credit: No

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three- dimensional objects using traditional and nontraditional machining and forming techniques. Three-dimensional design problems form the core of this course.

Prerequisites: take ETECH-110 or ETECH-150 or PKG-210

ET-422 Research and Development

(3 cr.)

Repeatable for Credit: No

Research and development procedures applied to specific industrial material and processing problems.

Prerequisites: take ETECH 205

Package Machinery (15 credits)

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-341 Electrical and Mechanical Interface Devices

(3 cr.)

Repeatable for Credit: No

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control.

Prerequisites: take ET-204, either PHYS 242 or PHYS 282 and ETECH-260

ET-393 Design of Machines and Mechanisms

(3 cr.)

Repeatable for Credit: No

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces.

Prerequisite: take ET-290

PHYS-321 Statics and Strength of Materials

(4 cr.)

Repeatable for Credit: No

Static equilibrium conditions applied to trusses and frames. Application of friction. Relationship between stress and strain which includes thermal stresses. Characterizations of beams including corresponding deflections and internal stresses. Shear and bending moment diagrams. Combined stresses and strength of beam connections.

Prerequisite: take PHYS-241 or PHYS-281

- PKG-XXX Packaging Machinery Transfer Electives

ETECH-260 Introduction to Fluid Power

(2 cr.)

Repeatable for Credit: No

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

ET-320 Prototype Development and Model Making

(3 cr.)

Repeatable for Credit: No

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three-dimensional objects using traditional and nontraditional machining and forming techniques. Three-dimensional design problems form the core of this course.

Prerequisites: take ETECH-110 or ETECH-150 or PKG-210

Package Printing (15 credits)

GCOM-151 Graphics Software Tools

(3 cr.)

Repeatable for Credit: No

Graphics software tools and processes for production/development of print and non-print graphics projects. Software features and application, image capture/creation, page layout, and web development for multiple media workflows.

GCOM-251 Premedia Graphics Production

(3 cr.)

Repeatable for Credit: No

Optimization of digital creation, capture and manipulation of graphics for print and digital distribution. Premedia systems, workflow, color theory, digital photo, bitmap and vector graphic creation and editing. File and font management, document layout, automation, proofing, preflight and submission of files for output.

Prerequisite: take either GCOM-151 or DES-220

Quality Management (15 credits)

Required Courses (12 credits).

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-420 Quality Assurance-Practicum

(3 cr.)

Repeatable for Credit: No

Application of principles and techniques learned in INMGT-320, as part of Professional Semester/ Manufacturing Laboratory.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

Emphasis Selectives (3 credits)

Select a minimum of 3 credits below:

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUACT-335 Accounting for Management Decisions

(3 cr.)

Repeatable for Credit: No

Principles, techniques and use of accounting information to make management decisions in planning, operating and controlling activities of a business.

Prerequisite: take BUACT-207

BUACT-410 Manufacturing Cost Analysis

(3 cr.)

Repeatable for Credit: No

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer.

Prerequisites: take BUACT 201 or BUACT 206

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

Additional Minors

Students must work with a Minor Advisor to complete requirements:

- Studio Art Minor
- Business Administration Minor
- Project Management Minor
- Supply Chain Management Minor

Plastics Engineering, B.S.

Go to [program website](#)

Plastics Engineering, B.S.: 4-year sequence

Introduction

The Bachelor of Science degree in Plastics Engineering is designed to prepare engineers as experts in the design and manufacturing of plastic components. Plastics engineers work with other professionals in the design of products, particularly to ensure efficiency and quality when manufacturing. First class testing and processing facilities allow plastics engineering students to learn how to setup, optimize and validate processes to meet high quality standards. Plastics engineers also work to design and program automated systems capable of manufacturing and assembling plastic products. Through advanced knowledge of plastics materials, engineering design rules, and computer simulation software, plastics engineers play a vital role in automotive and recreational vehicle components, medical devices, consumer electronics, and everything else made of plastic.

To be admitted to the program, students must have graduated in the top 40 percent of their class or, for high schools that do not rank, have a cumulative grade point average of at least 3.0 on a 4.0 scale, or receive a composite score of 22 or greater on the ACT or equivalent score or greater on the SAT (*ACT is preferred*). In addition, an ACT math score of at least 22 or equivalent score on the SAT is required.

UW-Stout's Plastics Engineering degree is accredited by the Engineering Accreditation Commission of ABET (*Accreditation Board for Engineering and Technology*). It is the only nationally accredited plastics engineering degree in the Midwest, and one of only two in the United States. Many opportunities exist for paid cooperative experience with local and regional companies, as well as national and international companies. These experiences are extremely beneficial when applying for full-time engineering positions, and are an essential component to the undergraduate plastics engineering experience at UW-Stout.

General Requirements Bachelor of Science Degree

Total for graduation	129 credits
General Education	40 credits
Major Studies	89 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech

organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (13 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be from the list of approved cross-disciplinary issues courses.

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

ETECH-100 can alternatively be used to satisfy Social Responsibility and Ethical reasoning

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (89 credits)

Mathematics and Basic Sciences (21 credits)

CHEM-325 Chemistry of Polymers

(4 cr.)

Repeatable for Credit: No

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

ENGR-292 Dynamics

(3 cr.)

Repeatable for Credit: No

Kinematics of particles, rigid bodies, and systems. Analysis of position, velocity, and acceleration. The relationship between the motion of bodies and forces or torques. Study of particles and rigid bodies subject to translation, rotation, and general planar motion using Newton's laws of motion, Work-energy methods, impulse-momentum methods, and mechanical vibrations.

Prerequisite: take PHYS-291

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

PHYS-291 Statics

(3 cr.)

Repeatable for Credit: No

Essential elements of statics. Includes vector mechanics, coplanar and non-coplanar force systems, resultants, distributed loads, free-body diagrams, equilibrium conditions, trusses and frames, method of joints, method of sections, and force of inertia.

Prerequisite or co-requisite: MATH-154 or concurrent enrollment

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

Engineering Core (14 credits)

ENGR-290 Circuits and Devices

(4 cr.)

Repeatable for Credit: No

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits.

Prerequisites: take MATH-154 and PHYS-282

ENGR-294 Mechanics of Materials

(3 cr.)

Repeatable for Credit: No

Normal and shear stresses and strains. Stresses and deformations in objects subject to axial, torsional, and flexural loadings. Shear and bending moment diagrams. Stress transformations and principle stresses.

Prerequisite: take PHYS-291

ENGR-275 Thermodynamics & Heat Transfer

(3 cr.)

Repeatable for Credit: No

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisite: take PHYS-291 and MATH-250 (which may be taken concurrently)

ENGR-391 Fluid Mechanics

(3 cr.)

Repeatable for Credit: No

Fundamentals and engineering applications of fluid mechanics.

Prerequisite: take ENGR-275 or ME 390

PLE-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

PLE-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Polymer/Plastic Materials, Processes, Analysis and Testing (21 credits)

ETECH-250 Introduction to Plastics

(3 cr.)

Repeatable for Credit: No

Examine basics of molecular structure, mechanical behavior, and rheological properties of plastics. Overview of plastics processing, new technologies related to processing, post-consumer-life, and introduction to ASTM/ISO standards used for testing and materials characterization.

Prerequisite: take either ETECH-150, ETECH 100, or ETECH 110

ETECH-341 Injection Molding Technology

(3 cr.)

Repeatable for Credit: No

Injection molding process parameters, part and tooling design, materials selection, quoting, rapid prototyping, troubleshooting, and cycle time reduction efforts. Laboratory experiments for understanding various technologies associated with injection molding of quality parts.

Prerequisite: take either ETECH-250 or ETECH-251

PLE-305 Extrusion Theory and Applications

(3 cr.)

Repeatable for Credit: No

Application of advanced theory in extrusion, extrusion blow molding, and thermoforming. Material specifications, part designs, die or mold designs, plasticating process and equipment, and control and monitoring systems will be emphasized.

Prerequisites: take ETECH-250, ENGR-275 and ETECH-210

PLE-310 Injection Molding Theory, Design and Application

(3 cr.)

Repeatable for Credit: No

Builds on basic injection molding knowledge with an emphasis on design, process cause and effect, troubleshooting, advanced molding techniques, cycle time reduction efforts, thermal management techniques, and rapid prototyping.

Prerequisites: take ETECH-341, ENGR-275, and ETECH-210

PLE-340 Process Simulation and Analysis

(3 cr.)

Repeatable for Credit: No

Concepts of process modeling and simulation including rheological and thermal behavior of polymers during processing. Practical applications are analyzed utilizing commercial simulation software.

Prerequisites: take PLE-305 and PLE-310; Prerequisite or concurrent enrollment: ENGR 391

PLE-360 Testing and Analysis of Plastics

(3 cr.)

Repeatable for Credit: No

Mechanical, rheological, and thermal properties of plastics. Theoretical principles are combined with laboratory experimentation to identify and characterize plastics in order to evaluate how the properties relate to processing and part performance.

Prerequisites: take ENGR-275, ENGR-294, and CHEM-325

PLE-420 Transport Phenomena for Plastics Engineers

(3 cr.)

Repeatable for Credit: No

Fluid dynamics and heat transfer applied to plastics processing. Plastic flow behavior as a non-Newtonian fluid with shear heating. Effects of operating conditions and mold/die design on filling behavior, cooling rates, and part characteristics. Finite difference and iterative calculations employed with comparison to fluid flow simulation software.

Prerequisites: take ENGR-275, ENGR 391 , and PLE-340 or concurrent enrollment

Product and Production System Design (24 credits)

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

ETECH-210 Engineering Graphics Using Solid Modeling

(3 cr.)

Repeatable for Credit: No

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisite: take ETECH-112

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ENGR-325 Computer Aided Manufacturing for Manufacturing Engineers

(3 cr.)

Repeatable for Credit: No

Effects of product mix and demand patterns on manufacturing system design and selection of process control methods. Introduction to quick changeover strategies and reprogrammable automation including numerically controlled machine tools, robotics, group technology, CAD/CAM, automated inspection and other computerized processing techniques.

Prerequisites: take ETECH-210, and take ETECH-252 or ETECH-341

ENGR-363 Controls and Instrumentation

(4 cr.)

Repeatable for Credit: No

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control. Introduction to motion control.

Prerequisites: take MATH-250

ENGR-415 Machine Vision and Robotics

(2 cr.)

Repeatable for Credit: No

Design of machine vision and industrial robotic applications, including cost justification.

Prerequisites: take INMGT-300 and ENGR 292

PLE-405 Capstone I: Process/Product Design

(3 cr.)

Repeatable for Credit: No

Design of a product, process, and/or experiment(s) to perform a useful function or solve an industry-based or independent research problem related to plastics engineering. Requires knowledge in research, problem solving, teamwork, communication skills, project

management, documentation, and experimentation.
Corequisites: take PLE-340, PLE-360 and INMGT-422 concurrently.

PLE-410 Capstone II: Process/Product Development

(3 cr.)

Repeatable for Credit: No

A study of process and/or product development through 1) applied research and experimentation, or 2) the design, building, and testing of a product assembly, used to perform a useful function or solve an industry-based/independent research problem. Process documentation and experimental analyses will be emphasized.

Prerequisites: take PLE-405, ENGR-415 (prerequisite or corequisite), ENGR-363, and ENGR-325

Engineering and Professional Competitiveness (9 credits)

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-335 Lean Manufacturing Systems

(4 cr.)

Global Perspective

Repeatable for Credit: No

An introduction to production/operations management and lean manufacturing system design for engineers. Emphasis is given to analysis and design of production systems, facility layout, and globalization.

Prerequisite: take STAT-330

INMGT-422 Quality Engineering

(3 cr.)

Repeatable for Credit: No

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

STAT-330 or higher level Statistics

Professional Communication and Emerging Media, B.S.

Go to [program website](#)

Introduction

Professional Communication and Emerging Media is a rapidly growing profession. Development of new technologies has increased the demand for professionals who can clearly explain policies, products and services to clients and customers. UW-Stout's program integrates communication theory with coursework in a chosen applied field. Examples of applied fields include biomedical

engineering, packaging, international studies, quality management, telecommunications, tourism, training and development, art and design, and business and management. Graduates of this program will have the skills to research, visualize, design, develop and oversee publication of both print and electronic documents.

Copy editing and preparation, multimedia or hypertext writing, and critical, technical and freelance writing courses prepare you to write clearly for specific audiences. In addition, courses in an applied field of your choice supply the strong technical background crucial to communicating complex ideas to different audiences. Elective courses give you the chance to explore other areas, such as photography or creative writing. All students will participate in a co-op, internship or practicum during their career.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Core	54 credits
Concentration	26 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Core (54 credits)

Professional and Technical Communication (45 credits)

ENGL-121 Introduction to Professional Communication

(3 cr.)

Repeatable for Credit: No

Trends, opportunities, and technologies shaping the field of professional communication. Career paths and specializations as well as ethical responsibilities.

Prerequisite: Professional Communication & Emerging Media majors only

ENGL-125 Professional Writing Elements of Style

(3 cr.)

Repeatable for Credit: No

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisite: take either ENGL 101 or ENGL 111

ENGL-215 Foundations of Technical Communication

(3 cr.)

Repeatable for Credit: No

Overview of major writing and documentation forms and conventions used in technical communication, including document design strategies, technical reports, and other professional texts.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-225 Editing Processes and Practices

(3 cr.)

Repeatable for Credit: No

Comprehensive editing, copy editing, proofreading, and style selection; review of Standard Written English grammar and usage.

Prerequisites: take ENGL-102 or ENGL-112 or ENGL-113; and take ENGL-125

ENGL-312 Transnational Professional Communication

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the global aspects of professional communication, including translation and cross-cultural visual communication. Apply cultural models in order to understand and address the needs of users and colleagues from different cultural and linguistic backgrounds.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-340 The Structure of English

(3 cr.)

Repeatable for Credit: No

New analytic and descriptive methods applied to modern English.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance.

ENGL-350 Digital Storytelling

(3 cr.)

Repeatable for Credit: No

Create and critique visual and digital stories and the deployment of digital and visual media tools to tell a variety of stories from diverse social and cultural contexts.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-371 Rhetoric and Style: Strategies of Argumentation

(3 cr.)

Repeatable for Credit: No

Examines classical rhetoric to identify enduring elements and concerns as well as critical tensions and conflicts. Students will obtain the vocabulary and conceptual understanding of the rhetorical tradition with attention to development both oral and written arguments.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-385 Document Design

(3 cr.)

Repeatable for Credit: No

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles.

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

ENGL-430 Writing for Content Management

(3 cr.)

Repeatable for Credit: No

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-435 Writing Technical Manuals

(3 cr.)

Repeatable for Credit: No

Production of a technical manual--planning procedure, collecting information, analyzing audience, writing and field testing.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-471 Professional Communication Capstone

(3 cr.)

Repeatable for Credit: No

Preparing to enter the job market in a professional communication field, both as a full-time employee and as a freelancer or consultant. Practical issues such as networking, self-employment, copyright and portfolio development. Production of a significant client-based capstone project.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

PHIL-235 General Ethics

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical valuing process: principal ethical theories and their application to common human problems.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

Global Learning (8 credits)

Students must earn at least eight credits of foreign language and/or credits earned while studying abroad.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Experiential Learning (1 credit)

*All students are required to complete at least one credit of practicum or cooperative education experience. See your advisor or program director for additional information. **NOTE:** Each practicum credit requires at least 80 hours of professional work. Co-ops must meet the requirements set by Career Services: at least 320 hours with paid compensation completed within a summer or semester.*

- ENGL-337 PCEM Practicum (1-3 cr.) or

ENGL-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-437 Technical Writing Practicum

(1-3 cr.)

Repeatable for Credit: Yes

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document.

Department Consent

ENGL-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Concentrations (26 credits)

Applied Journalism (26 credits)

ENGL-207 Writing for the Media

(3 cr.)

Repeatable for Credit: No

Theory and practice of writing for the media.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-218 Mass Communication: Effects of the Technology on Society

(3 cr.)

Repeatable for Credit: No

The ideological and social implications of mass communication technology.

Prerequisite: take either ENGL-101 or ENGL-111

ENGL-330 Feature Writing

(3 cr.)

Repeatable for Credit: No

Plan, research and create feature articles for newspapers, magazines and online publications; develop research tools and writing skills; observe ethical and legal considerations in writing.

Prerequisite: take ENGL-207

ENGL-407 Seminar in Applied Journalism

(3 cr.)

Repeatable for Credit: No

Investigation into journalistic practices in particular disciplines, industries, and trades. Students will research, synthesize, and apply journalistic practices to their chosen field.

Prerequisite: take ENGL-207

ENGL-418 Convergent Communication

(3 cr.)

Repeatable for Credit: No

Defining and analyzing convergent medial practices in professional communication disciplines, industries and trades; exploring how convergence of print, video/audio and online media has influenced professional writing.

Prerequisite: take ENGL-218

Applied Field (11 credits)

In consultation with your advisor and/or program director, choose at least 11 credits as an Applied Field to fulfill the 26-credit concentration requirement.

Digital Humanities (26 credits)

CS-141 Introduction to Programming

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Solving problems using computer programming. Input/output, user interface, objects, events, flow of control, functions, arrays.

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

ENGL-335 Introduction to Digital Humanities

(3 cr.)

Repeatable for Credit: No

Explores the dynamic interaction between digital technologies and the humanities (art, literature, film, history, media, pop culture).

ENGL-480 Seminar in Digital Humanities

(3 cr.)

Repeatable for Credit: No

Research into and discussion of current and emerging issues in the digital humanities. Subject matter covered will vary to reflect the state of current research.

Prerequisite: Take ENGL-335

ENGL-495 Digital Humanities Capstone

(3 cr.)

Repeatable for Credit: Yes

Development of student-initiated research project in the digital humanities over two semesters. Results in thesis in medium appropriate to topic.

Prerequisite: Take ENGL-335

Applied Field (11 credits)

In consultation with your advisor and/or program director, choose at least 11 credits as an Applied Field to fulfill the 26-credit concentration requirement.

Psychology, B.S.

Go to [program website](#)

Psychology, B.S.: 4-year sequence, 3-year sequence

Introduction

The B.S. in Psychology program at UW-Stout focuses on applying the science of psychology to helping people and solving real world problems.

In addition to traditional coursework in the major sub-fields of psychology, the program offers a unique variety of courses applying psychology to areas such as counseling, health, the workplace, the legal system, the environment, and consumer behavior. Students in the program have numerous opportunities to gain hands-on experience through applied course projects, research experiences, and field experiences. Faculty advisors guide students in developing a personal program plan centered on their individual needs and career goals.

Graduates finish the program with a strong foundation in the application of psychology, analytical thinking and communication skills, which makes them attractive candidates for a wide variety of jobs and graduate programs.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	48 credits
Minor or second area of depth	15-22 credits
Additional Liberal Studies Requirement	3 credits

Students must attain a minimum grade point average of 2.25 in required courses for the major and a minimum grade point average of 2.5 in other courses for the major.

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytical Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytical reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (48 credits)

Required Courses (34 credits)

PSYC-100 Psychology Seminar I-Foundations

(1 cr.)

Repeatable for Credit: No

Fields of study and careers in psychology with focus on development of skills, attitudes, ethics, and habits to successfully master

those fields and pursue those careers.

Prerequisites: Declared Psychology major or instructor approval

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

PSYC-190 Psychological Research Methods

(4 cr.)

Repeatable for Credit: No

Introduction to research methods used in the behavioral sciences. Includes laboratory activities and application of methodologies and statistical software to understand and produce research compatible with American Psychological Association standards.

Prerequisite: take PSYC 110

PSYC-233 Brain and Behavior

(3 cr.)

Repeatable for Credit: No

Biological basis of behavior and cognition. Biological explanation of disorders of behavior and cognition.

Prerequisite: take PSYC 110

PSYC-242 Applied Cognition

(3 cr.)

Repeatable for Credit: No

Introduction to cognitive psychology, with a focus on applied areas such as engineering psychology, human factors, learning sciences, and design sciences. Emphasis on the application of cognitive models to problems, processes, and products.

Prerequisites: take PSYC 110

PSYC-251 Child Psychology

(3 cr.)

Repeatable for Credit: No

Investigation of the psychological development of the growing child by considering physical, cognitive, social, and emotional development beginning in the prenatal environment and continuing through age 12.

Prerequisite: Take PSYC-110

PSYC-270 Social Cognition and Behavior

(3 cr.)

Repeatable for Credit: No

Introduction to the theories, methods, findings and application of how we think, act and feel in everyday interactions. Includes self and social judgments/biases, attitudes, social influence, persuasion, conformity, aggression, attraction, prejudice, and helping behaviors.

Prerequisite: Take PSYC-110

PSYC-290 Interpreting Psychological Research

(3 cr.)

Repeatable for Credit: No

Analysis and interpretation of quantitative statistical arguments in psychology. Development of analytical and critical thinking skills related to statistical analyses and arguments.

Prerequisite: take PSYC-190

PSYC-300 Psychology Seminar II - Career Preparation

(1 cr.)

Repeatable for Credit: No

Exploration of post-graduation options for psychology majors. Development of skills and knowledge for seeking postgraduate employment and/or graduate school admission.

Prerequisites: Take PSYC-100 and PSYC-110

PSYC-320 Psychology: Its History and Systems

(3 cr.)

Repeatable for Credit: No

History of psychology and influence of early competing schools of thought: structuralism, functionalism, behaviorism, Gestalt psychology, and psychodynamic psychology. Evolution to present as a diverse behavioral science with emphasis on neobehaviorism, humanistic psychology, and cognitive psychology.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-350 Culture and Psychology

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Explores relationships among culture, behaviors and mental processes. Addresses cultural commonalities and differences in cognitive processes, such as perception, memory, and language; interpersonal processes such as marriage and childrearing; and mental health problems and treatments. Psychological perspectives on multicultural issues such as race, ethnicity, gender, and sexual orientation.

Prerequisite: take either PSYC-110 or SOC-110 or ANTH-220

PSYC-490 Research Practicum

(4 cr.)

Repeatable for Credit: No

Research methods used in basic and applied areas of psychology. Methodological issues introduced in context of actual research problems for integrated treatment of content and methodology. Students will apply this knowledge by designing and conducting their own psychological research.

Prerequisites: take PSYC 290

Psychology Selectives (12 credits)

Select at least two courses from Basic Psychology and two courses from Applied Psychology.

Basic Psychology Selectives (6 credits)

PSYC-330 Psychology of Learning

(3 cr.)

Repeatable for Credit: No

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized.

PSYC-351 Children's Social Reasoning

(3 cr.)

Repeatable for Credit: No

Focused, in-depth study of social reasoning from birth through late childhood. Empathy, friendship, altruism, multicultural perceptions, shyness, assertiveness, aggression, loneliness, morality, values, and global responsibility. Heredity/environment-based theories. Assessment tools and prevention and intervention programs. It is recommended that students will have taken one of the following courses: PSYC-251, HDFS-124, HDFS-264, or PSYC-270.

Prerequisite: take PSYC-110

PSYC-352 Adolescent Psychology

(3 cr.)

Repeatable for Credit: No

Investigation of the psychological development of the growing adolescent by considering physical, cognitive, social, emotional, and personality transitions between the ages of 13 and 20 years old.

Prerequisite: Take PSYC-110

PSYC-360 Personality Theories and Applications

(3 cr.)

Repeatable for Credit: No

Definition of personality and analysis of historical and contemporary approaches to the study of personality. Examines personality theories, personality assessment, cultural and other group difference impacts on personality, applications of personality, and personality self-assessment.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-361 Abnormal Psychology

(3 cr.)

Repeatable for Credit: No

Symptoms, causes, and treatment of various psychological disorders; historical changes in conceptualization and classification of psychological disorders; ethical, legal, and professional issues associated with psychological disorder diagnosis and treatment.

PSYC-432 Perception

(3 cr.)

Repeatable for Credit: No

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

PSYC-442 Cognitive Processes

(3 cr.)

Repeatable for Credit: No

Cognitive theories of attention, memory, language, reasoning and problem solving with applications to fields of education, vocational rehabilitation, gerontology, forensic, clinical and counseling psychology.

Prerequisite: Take PSYC-110

PSYC-451 Children's Learning

(3 cr.)

Repeatable for Credit: No

Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified; discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language.

Prerequisite: Take PSYC-110

PSYC-470 Social Influence

(3 cr.)

Repeatable for Credit: No

Types of social influence and analysis of historical and contemporary approaches to the study of social influence. Techniques and impact of social influence in everyday life and resistance to unwanted social influence.

Prerequisite: take PSYC-110

Applied Psychology Selectives (6 credits)

PSYC-120 Psychology of Adjustment

(3 cr.)

Repeatable for Credit: No

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

PSYC-225 Psychology of Video Games

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychological aspects and impacts of video games. Theoretical factors of cognitive, learning, motivation, development, personality, social, and clinical psychology will be examined in relation to the experience and outcomes resulting from game play.

PSYC-280 Forensic Psychology, Law and Ethics

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Surveys the application of psychological theory and research to legal and ethical questions and problems, from a community-oriented perspective. U.S. focus. Psychologists' roles in assessing and improving legal policies and practices, victim and offender well-being and law enforcement activity. Sociocultural bias/fairness explored.

PSYC-333 Drugs and the Brain

(3 cr.)

Repeatable for Credit: No

Comparison of psychoactive drug classes, including drugs used for treatment of psychological disorders, recreational drugs, and illegal drugs, with focus on brain and behavior. Evaluation of role of psychological, biological, and sociological factors in drug use and abuse.

Prerequisite: Take PSYC-110

PSYC-355 Clinical and Counseling Psychology

(3 cr.)

Repeatable for Credit: No

Explores methods by which clinical and counseling psychologists assess and treat psychological problems and promote well-being, applying various psychological theories and research. Addresses similarities/differences of the mental health professions in philosophy, perspectives, typical career choices/duties, and training/licensure requirements. Discusses professional issues and specialty areas.

Prerequisite: Take PSYC-110

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

PSYC-371 Introduction to Health Psychology

(3 cr.)

Repeatable for Credit: No

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies.

Prerequisites: must have 10 credits in PSYC courses

PSYC-377 Consumer Psychology

(3 cr.)

Repeatable for Credit: No

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Prerequisite: Take PSYC-110

PSYC-381 Psychology in the Workplace

(3 cr.)

Repeatable for Credit: No

Application of psychological principles to the workplace, with emphases on assessment of cognitive, physical and interpersonal abilities, employee selection, training and development methods, and development of organizational methods for improved motivation, job satisfaction, leadership and organizational effectiveness.

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

PSYC-391 Applied Psychophysiological Methods

(3 cr.)

Repeatable for Credit: No

Theory, methods, laboratory procedures, and applications of physiological responses to psychological stimuli.

Prerequisite: take BIO-132

Experiential (2 credits)

Select 2 credits from the following:

- PSYC-X49 Cooperative Education Experience in Psychology (1-8 cr.)
- PSYC-X98 Psychology Field Experience (2 cr.)

PSYC-480 Individual Research Project I

(1 cr.)

Repeatable for Credit: Yes

Preliminaries of active research through the development of a research proposal which includes the problem statement, review of the literature and the design of the research project.

Department Consent

Prerequisites: take PKG-210 and PSYC-490

PSYC-481 Individual Research Project II

(1 cr.)

Repeatable for Credit: Yes

Research in a personal area of interest within the behavioral sciences. Requirements include the completion of a research report which meets APA guidelines.

Department Consent

Prerequisite: take PSYC-480

Note(s):

** Must involve research and be approved by the advisor as meeting the requirement of this category.*

Psychology Electives

See advisor for a list of approved electives to fulfill the 120-credit requirement.

Minor or Second Area of Depth (15-22 credits)

Students are expected to complete a minor, specialization, certificate, pre-clinical concentration or self-designed concentration.

Self-Designed Concentration (21 credits)

Select courses in consultation with faculty advisor and program director.

Pre-Clinical Concentration (21 credits)

Required (6 credits)

PSYC-355 Clinical and Counseling Psychology

(3 cr.)

Repeatable for Credit: No

Explores methods by which clinical and counseling psychologists assess and treat psychological problems and promote well-being, applying various psychological theories and research. Addresses similarities/differences of the mental health professions in philosophy, perspectives, typical career choices/duties, and training/licensure requirements. Discusses professional issues and specialty areas.

Prerequisite: Take PSYC-110

PSYC-361 Abnormal Psychology

(3 cr.)

Repeatable for Credit: No

Symptoms, causes, and treatment of various psychological disorders; historical changes in conceptualization and classification of psychological disorders; ethical, legal, and professional issues associated with psychological disorder diagnosis and treatment.

Selectives (15 credits)

PSYC-120 Psychology of Adjustment

(3 cr.)

Repeatable for Credit: No

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

PSYC-280 Forensic Psychology, Law and Ethics

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Surveys the application of psychological theory and research to legal and ethical questions and problems, from a community-oriented perspective. U.S. focus. Psychologists' roles in assessing and improving legal policies and practices, victim and offender well-being and law enforcement activity. Sociocultural bias/fairness explored.

PSYC-330 Psychology of Learning

(3 cr.)

Repeatable for Credit: No

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized.

PSYC-333 Drugs and the Brain

(3 cr.)

Repeatable for Credit: No

Comparison of psychoactive drug classes, including drugs used for treatment of psychological disorders, recreational drugs, and illegal drugs, with focus on brain and behavior. Evaluation of role of psychological, biological, and sociological factors in drug use and abuse.

Prerequisite: Take PSYC-110

PSYC-360 Personality Theories and Applications

(3 cr.)

Repeatable for Credit: No

Definition of personality and analysis of historical and contemporary approaches to the study of personality. Examines personality theories, personality assessment, cultural and other group difference impacts on personality, applications of personality, and personality self-assessment.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

PSYC-371 Introduction to Health Psychology

(3 cr.)

Repeatable for Credit: No

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies.

Prerequisites: must have 10 credits in PSYC courses

PSYC-391 Applied Psychophysiological Methods

(3 cr.)

Repeatable for Credit: No

Theory, methods, laboratory procedures, and applications of physiological responses to psychological stimuli.

Prerequisite: take BIO-132

Additional Liberal Studies Requirements (3 credits)

Select any of the following approved writing courses:

ENGL-207 Writing for the Media

(3 cr.)

Repeatable for Credit: No

Theory and practice of writing for the media.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

Real Estate Property Management, B.S.

Go to [program website](#)

Introduction

The B.S. in Real Estate Property Management provides a comprehensive and challenging academic experience that prepares graduates to be leaders in the property management profession. Property management is the administration, operation, marketing, and maintenance of real property in order to achieve the objectives of the property's owner. Property managers are in a service business and work closely with both the owners of the properties they manage and the tenants and residents who reside and work

within these properties.

The field of property management is growing steadily because of three concurrent trends: (1) the simultaneous growth of the population and its requirements for space has increased the total number of all types of buildings, (2) a larger percentage of real estate is considered investment property and (3) there is increasingly wide acceptance of the fact that real estate management requires special training and education.

There is a growing sophistication and professionalism in the management of both residential and commercial property. A professional property manager has to possess a diverse skill set in the areas of finance, accounting, tenant and employee relations and laws affecting these properties. The degree program is designed to prepare students for this by drawing widely from courses in the disciplines of business, management, construction, service management, retail and hospitality.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Core Requirements	61 credits
Concentration	19 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

A natural science course with a lab is required.

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology, and sociology.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses, which includes technology.

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Core Requirements (64 credits)

Professional Studies (64 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

GEM-211 Customer Experience Management

(3 cr.)

Repeatable for Credit: No

Principles associated with managing the customer experience, satisfaction, and the employee engagement process. Focus on blend of technology, people and information needed to achieve a distinctive competitive advantage.

HT-344 Hospitality and Tourism Marketing and Sales

(3 cr.)

Repeatable for Credit: No

Analysis of marketing strategy, sales techniques, promotional tools, and research for hospitality and tourism development.

Must be Junior level or higher

HT-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

HT-452 Hospitality Professionalism

(2 cr.)

Repeatable for Credit: No

Prepare hotel, restaurant and tourism students as professionals in a global community. Role-play emphasis on professional dress, dining etiquette, culture and business conversation, job search and placement techniques.

HRTM or Property Management Majors only

HT-454 Security and Risk Management for the Hospitality Industry

(3 cr.)

Repeatable for Credit: No

Advanced investigation of security and risk management within hospitality/service industries.

HT-457 Hospitality Management Strategies

(3 cr.)

Repeatable for Credit: No

Comparison and synthesis of hospitality management strategies; concepts and theories in relationship to long-term hospitality business goals and objectives. Capstone course for senior-level H&T students.

Prerequisite: Must be Senior level and take HT-362

PM-100 Introduction to Property Management

(2 cr.)

Repeatable for Credit: No

Property management industry overview: types of residential and commercial property managed and career paths within the industry. Understanding relationships among property managers, owners and tenants.

PM-280 Hospitality Facilities Management

(3 cr.)

Repeatable for Credit: No

Applied perspectives on responsible and efficient management of physical plant and equipment demands to achieve maximum guest and tenant satisfaction at acceptable operating costs.

Must be Sophomore level or higher

PM-358 Ethical Decision Making in Property Management

(3 cr.)

Repeatable for Credit: No

Analysis of ethical decisions in property management. Case studies incorporating major laws impacting the property management industry; codes of ethics of major professional societies in property management.

PM-410 Issues in Multi-family Property Management

(3 cr.)

Repeatable for Credit: No

An in-depth study of contemporary issues affecting multi-family property management. Issues including tax credit housing and conflict negotiation will be analyzed requiring a focus on critical thinking and writing skills.

Must be Senior level or higher

PM-362 Real Estate Market Analysis and Investment Analysis

(3 cr.)

Repeatable for Credit: No

Analytical tools used for decision making by property managers and the stakeholders they serve. Market and investment analysis and role in providing a financial perspective for the property manager and owner.

Prerequisite: take BUACT-207

PM-365 Principles of Real Estate

(3 cr.)

Repeatable for Credit: No

Examine real estate issues relating to property ownership, financing, land use control, transferring interest in real estate through real estate contracts and deeds, leasing and managing property and understanding agents' pre-license and brokerage requirements.

PM-370 Principles of Property Management

(3 cr.)

Repeatable for Credit: No

Management of commercial, multifamily and common interest development property. Employees, management tools, government involvement, client acquisition and tax requirements.

PM-371 Commercial/Residential Property Development and Management

(3 cr.)

Repeatable for Credit: No

Exploring factors involved in developing and managing property, both residential and commercial, including undeveloped land. Topics include feasibility studies, financing, appraisal, leases, purchase agreements and management contracts.

Prerequisite: take PM-370

PM-381 Marketing and Leasing Commercial and Residential Property

(3 cr.)

Repeatable for Credit: No

Effective marketing practices, leasing strategies and tactics designed to attract and retain qualified residential and commercial tenants to income producing properties.

Prerequisite: take PM-370

PM-391 Real Estate Appraisal

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and practical application of real estate appraisal principles including real estate land economics, the three approaches to value applied to single family, multi-family, and commercial appraisal reports.

Must be Junior level or higher

PM-430 Real Estate Law

(3 cr.)

Repeatable for Credit: No

Legal relationships involved in real estate law including owning, leasing, managing and selling interests in real property.

Prerequisite: take BULGL-365

PM-449 Cooperative Education Experience

(1-6 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Department Consent

PM-470 Seminar In Property Management

(4 cr.)

Repeatable for Credit: No

Capstone course for Property Management. Preparation of a management plan in the context of a functioning marketplace. Students will seek out and write a management plan that meets the format and content standards for professional accreditation.

Prerequisite: take PM-370 and PM-362

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

Concentrations (18-19 credits)

Students may choose from a list of approved selectives or complete a concentration.

Construction (18 credits)

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

AEC-190 Orientation to Construction Industry

(1 cr.)

Repeatable for Credit: No

An introduction to the field of construction as presented by professionals in the construction industry to broaden student understanding and develop appreciation of the entire scope of construction.

AEC-237 Architectural Technology

(3 cr.)

Repeatable for Credit: No

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems.

Prerequisites: take AEC-131 and earn a C or better

AEC-352 Building Mechanical Systems

(3 cr.)

Repeatable for Credit: No

Fundamental theory and application of heating, ventilation, air conditioning, plumbing, and fire suppression systems for buildings. Emphasis on system integration and sustainable topics as related to design, construction and management of mechanical construction scope of work.

Prerequisites: Take AEC-237 and earn a C or better

AEC-370 Construction Estimating I

(3 cr.)

Repeatable for Credit: No

Estimating and analyzing material, labor, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid.

Prerequisites: Take AEC-237 and earn a C or better

Hotel, Restaurant, Tourism Management (18 credits)

HT-235 Lodging Systems

(3 cr.)

Repeatable for Credit: No

Examination of the basic skills needed in a lodging facility. Specific roles, functions, and policies pertaining to the Rooms Division.

Must be Sophomore level or higher

HT-330 Resort Planning and Operation

(3 cr.)

Repeatable for Credit: No

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management.

HT-335 Lodging Operations Management

(3 cr.)

Repeatable for Credit: No

Investigation of supervisory roles in lodging management, with an emphasis on the importance of financial statements and their interpretation, human resources and productivity, and providing quality hospitality services within all types of lodging facilities.

Prerequisites: take HT 235

HT-374 Principles of Timeshare Management

(3 cr.)

Repeatable for Credit: No

Introduction to timeshare management; similarities and differences between timeshare operations and other hospitality businesses.

Tourism influences on timeshare development.

HT-383 Yield Management

(3 cr.)

Repeatable for Credit: No

Investigation of the use of computer technology in the lodging industry for revenue planning, scheduling and performance evaluation. Specialized software will be used to analyze and evaluate hotel performance.

Prerequisites: take HT 235 , HT-200 and STAT 130

HT-430 Lodging Administration

(3 cr.)

Repeatable for Credit: No

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization.

Prerequisite: Senior level and HT-383

Business Retail (19 credits)

BURTL-105 Introduction to Retail Merchandising & Management

(1 cr.)

Repeatable for Credit: No

Explore structure, trends and careers in the retail business. Understand the requirements for earning a degree in Retail Merchandising and Management, and identify resources designed to help students succeed at UW-Stout.

BURTL-127 Basic Merchandising

(3 cr.)

Repeatable for Credit: No

Analyzing the retailing process, the environment within which it operates, and the institutions and functions that are performed. A foundation for students who plan to work in retailing or related disciplines.

BURTL-212 Trend Tracking and Forecasting

(3 cr.)

Repeatable for Credit: No

Tracking and forecasting of product and consumer trends based on product lifecycle trends, fashion theories, socioeconomic and cultural factors, lifestyles, psychographic and demographic trends in the marketplace.

BURTL-390 Merchandise Planning and Control

(4 cr.)

Repeatable for Credit: No

Techniques for financial and unit planning, procurement and control of inventories for successful retail operations.

Prerequisites: Complete any GE Math course and BUACT-206

BURTL-327 Store Management

(3 cr.)

Repeatable for Credit: No

Develop management skills for retail stores of varying size.

Prerequisites: take BURTL 390

BURTL-329 Retail Promotions

(3 cr.)

Repeatable for Credit: No

Planning and execution of all the promotional messages used to communicate with members of a target market.

Prerequisite: take BURTL-127

BURTL-425 Current Retail Strategies for a Differential Advantage

(2 cr.)

Repeatable for Credit: No

Comparative analysis of specific retail corporations' strategies to gain a differential advantage with their merchandising and operational methodology.

Prerequisites: Must be Senior level and have taken BURL-127

Program Selectives (16 credits)

Select courses from the following list.

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

BUMGT-480 Entrepreneurship: Small Business Planning

(3 cr.)

Repeatable for Credit: No

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business-- start-up, buy out, franchise--legal and financial aspects. Preparing a business plan required.

Prerequisite: take BUMKG-330 or BUACT-206 or BUACT-200

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

HT-330 Resort Planning and Operation

(3 cr.)

Repeatable for Credit: No

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management.

HT-335 Lodging Operations Management

(3 cr.)

Repeatable for Credit: No

Investigation of supervisory roles in lodging management, with an emphasis on the importance of financial statements and their interpretation, human resources and productivity, and providing quality hospitality services within all types of lodging facilities.

Prerequisites: take HT 235

HT-350 Hospitality Diversity Management

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Analysis of multiculturalism and diversity in the hotel, restaurant and tourism workplace. Managing a diverse workforce in a logical and meaningful manner through understanding self-perspectives, group identities, and workplace strategies.

Must be Junior level or higher

HT-374 Principles of Timeshare Management

(3 cr.)

Repeatable for Credit: No

Introduction to timeshare management; similarities and differences between timeshare operations and other hospitality businesses. Tourism influences on timeshare development.

HT-460 Hospitality Industry Law and Liability

(3 cr.)

Repeatable for Credit: No

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

INMGT-350 Facilities Planning

(3 cr.)

Repeatable for Credit: No

Study of facilities location, structure, and planning for efficient layout and material handling systems.

Prerequisite: take INMGT 200

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

- PM-X49 Cooperative Education Experience

POLS-220 State And Local Government

(3 cr.)

Repeatable for Credit: No

State and local governments within U.S. federal system.

COMST-236 Listening

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical analysis and practical application of listening concepts in personal and professional relationships.

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

SRVM-111 Introduction to Global Service Management-HT

(3 cr.)

Repeatable for Credit: No

Principles of service management with emphasis on trends, career opportunities, and global economic impact of service sectors.

- AEC-XXX
- BUMGT-XXX
- BURTL-XXX
- HRTM-XXX
- INMGT-XXX
- International Experience

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Rehabilitation Services, B.S.

Go to [program website](#)

Introduction

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help persons with disabilities optimize their vocational potential. A general listing of these competencies includes:

1. Knowledge of the history, philosophy and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including supported environments, rehabilitation organizations, private rehabilitation, vocational rehabilitation agencies; knowledge of mental, physical and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist persons with disabilities; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
2. Elementary skill in the use of assessment techniques, elementary skill in work adjustment and counseling techniques, and elementary skill in utilizing job placement and follow-up procedures for persons with disabilities.
3. Ability to interact effectively with persons with disabilities. This could include persons with physical, emotional and social disabilities such as psychiatric disabilities, intellectual disabilities, visually impaired, hearing impaired, addictions and those who have committed criminal offenses.

The graduates of this program are employed in community-based rehabilitation programs, rehabilitation organizations, vocational rehabilitation agencies, private rehabilitation, correctional centers, business and industry, adult day centers, adolescent treatment programs and services, mental health clinics, halfway houses, and a variety of other settings serving persons with disabilities. Students who complete Special Education Certification are endorsed for Wisconsin licensure to teach students with cognitive disabilities, grades 6-12. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

Students must select their concentration option by the end of the first semester of their junior year. Students who do not complete a concentration must submit a written plan showing development of a coherent selection of coursework consistent with the objectives of the degree. The plan must be submitted and approved by the program director by the end of the first semester of the junior year.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	54 credits
Concentration	23 credits
Electives	3 credits

Program Requirements for Rehabilitation Services

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech

organization, voice, bodily action, language and development of confidence and poise.

Note(s):

Minimum grade of 2.0 is required; course must be repeated if minimum grade is not earned.

Analytic Reasoning and Natural Sciences (10 credits)

Remaining courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Additional Courses:

Remaining courses must be from one or more areas including anthropology, economics, geography, political science and sociology.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (54 credits)

A minimum grade of 2.0 is required in all rehabilitation studies. After earning 90 credits, students must maintain a 2.5 grade point average in rehabilitation studies to continue in the degree program.

Required Courses (32 credits)

BIO-220 Physiology of Disabilities

(3 cr.)

Repeatable for Credit: No

Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders.

Prerequisites: BIO-132 or BIO-234

COUN-405 Helping Skills for the Professional

(3 cr.)

Repeatable for Credit: No

Develop basic helping skills including active listening; problem solving, goal setting, and decision-making; conflict resolution; information giving; assertion skills; and making referrals. Applicable when basic counseling is an appropriate helping response and also in any interpersonal relationship, including people with disability and ethnic diversity issues.

REHAB-101 Introduction to Rehabilitation

(3 cr.)

Repeatable for Credit: No

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

REHAB-102 Community Resources

(3 cr.)

Repeatable for Credit: No

Role of community resources in rehabilitation.

REHAB-201 Pre Practicum in Rehabilitation

(1 cr.)

Repeatable for Credit: No

Issues related to professional development, ethics, and career awareness in vocational rehabilitation and criminal justice.

Prerequisites: take REHAB-101, REHAB-102, and REHAB-230

REHAB-230 Psychosocial Aspects of Disability

(3 cr.)

Repeatable for Credit: No

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisite: take REHAB-101

REHAB-310 Vocational Assessment Applications in Rehabilitation

(3 cr.)

Repeatable for Credit: No

Common vocational assessment techniques used in rehabilitation settings with diverse populations. Students apply, interpret and synthesize assessment techniques such as consumer needs analysis, vocational interviewing, psychometric testing, occupational information, behavioral observation and work evaluation techniques to provide client feedback and promote informed career decision making.

Prerequisites: take REHAB-101 and REHAB-102

REHAB-401 Principles and Techniques of Caseload Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities.

Prerequisites: take REHAB 102 and REHAB-230

REHAB-410 Job Placement Processes

(3 cr.)

Repeatable for Credit: No

Placement theory and methods used to assist people with disabilities to obtain appropriate employment.

Prerequisite: take REHAB-230

REHAB-470 Work Adjustment Services

(2-3 cr.)

Repeatable for Credit: No

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing.

Prerequisite: take REHAB-310

(3 credits required)

REHAB-398 Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: Yes

Community-based learning in an approved position to further develop skills and understanding of the challenges and potentials of various careers working with persons with disabilities, older adults and/or offenders. Written and oral communication emphasis.

Department Consent

Prerequisites: take REHAB-201 and COUN-405, each with a grade of "C" or better

Selectives (22 credits*)

Select 22 credits, including a minimum of two courses from Disability Selectives and two from Service Delivery Selectives.

Disability Selectives

Select at least two courses from the following:

COUN-494 Counseling Older Persons

(2-3 cr.)

Repeatable for Credit: No

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

(3 credits required)

REHAB-355 Rehabilitation of the Older Disabled Worker

(2 cr.)

Repeatable for Credit: No

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability.

PSYC-361 Abnormal Psychology

(3 cr.)

Repeatable for Credit: No

Symptoms, causes, and treatment of various psychological disorders; historical changes in conceptualization and classification of psychological disorders; ethical, legal, and professional issues associated with psychological disorder diagnosis and treatment.

REHAB-305 Sign Language I

(3 cr.)

Communication Skills

Repeatable for Credit: No

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

REHAB-306 Sign Language II

(3 cr.)

Communication Skills

Repeatable for Credit: No

Intermediate course in manual communication with persons who are deaf. American sign language, increasing sign vocabulary and communication speed.

Prerequisite: take REHAB-305

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-321 Rehabilitation of Public Offenders

(3 cr.)

Repeatable for Credit: No

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-325 Rehabilitation and Sensory Disability

(3 cr.)

Repeatable for Credit: No

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed.

REHAB-327 Psychiatric Rehabilitation

(3 cr.)

Repeatable for Credit: No

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take REHAB-230 and PSYC-361

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

SOC-360 Sociology of Juvenile Delinquency

(3 cr.)

Repeatable for Credit: No

Theories of delinquency, criminal behavior, and social control in relation to modern institutions in American culture.

Prerequisite: take SOC-110

SPED-300 Introduction to Individuals with Cognitive Disabilities

(3 cr.)

Repeatable for Credit: No

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons.

SPED-301 Learning Disabilities

(3 cr.)

Repeatable for Credit: No

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults.

SPED-330 Introduction to Communication Disorders

(3 cr.)

Repeatable for Credit: No

Nature, causes of and methods used when working with individuals who have speech and language disorders.

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

SPED-447 Emotional and Behavioral Problems of Children and Adolescents

(3 cr.)

Repeatable for Credit: No

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

Service Delivery Selectives

Select at least two courses from the following:

COUN-406 Peer Supervisory Experience

(1 cr.)

Repeatable for Credit: Yes

Experience in observation and feedback to peers undergoing counseling skill training.

Instructor's Consent Required

HDFS-225 Skill Training for Individual/Family Interventions

(3 cr.)

Repeatable for Credit: No

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings.

HT-360 Tourism for Persons with Disabilities

(3 cr.)

Repeatable for Credit: No

Examination of the effectiveness of current legislation and initial strategies to purposely accommodate the needs and preferences of persons with disabilities to promote a more inclusive environment within the hospitality and tourism industry.

PSYC-190 Psychological Research Methods

(4 cr.)

Repeatable for Credit: No

Introduction to research methods used in the behavioral sciences. Includes laboratory activities and application of methodologies and statistical software to understand and produce research compatible with American Psychological Association standards.

Prerequisite: take PSYC 110

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

REHAB-300 Special Topics in Rehabilitation

(1-2 cr.)

Repeatable for Credit: Yes

Special topics not available through regular courses.

REHAB-350 Independent Living

(2 cr.)

Repeatable for Credit: No

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-351 Benefits Coordination: Practice and Application

(3 cr.)

Repeatable for Credit: No

Benefits Specialist role and function; rehabilitation content applications. Benefits Program requirements: process and application.

Prerequisite: take REHAB-102

REHAB-360 Assistive Technology

(2 cr.)

Repeatable for Credit: No

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed.

REHAB-402 Management of Non-Profit Organizations

(3 cr.)

Repeatable for Credit: No

Principles and practices in the operation of non-profit organizations. Comparison of how non-profit and for-profit operations are affected by organizational structures and authority, budgeting practices, sources of income, personnel issues, strategic planning and program evaluation, and marketing. Application to community agencies.

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-460 Rehabilitation in the Private Sector

(3 cr.)

Repeatable for Credit: No

Case coordination to support maximum medical recovery and/or vocational rehabilitation of an injured person involved in insurance funded cases. Differences between public and private rehabilitation processes. Interviewing, planning, assessing transferable skills, placing in suitable work, and communicating with other involved individuals. Business practices, professional roles, and ethical issues.

Prerequisite: take REHAB-310

REHAB-461 Forensics for the Human Service Professional

(2 cr.)

Repeatable for Credit: No

Terminology and practices associated with forensic for human service professionals. Strategies and materials related to preparation for testimony and expert witness testimony in a court of law and other legal settings.

REHAB-462 Absence Management

(3 cr.)

Repeatable for Credit: No

Orientation to workers with disabilities in business and industry. Focus on reducing disability related costs, and the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business, community resources, and rehabilitation.

REHAB-483 Vocational Counseling Issues

(2 cr.)

Repeatable for Credit: No

Theoretical and applied approaches to vocational counseling and current research in vocational choice and career development as related to vocational counseling.

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work. Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

SOCWK-420 Human Behavior in the Social Environment

(3 cr.)

Repeatable for Credit: No

Biological, ecological, sociological, psychological, cultural, and spiritual development throughout the life cycle. Human development with the social environment emphasis from micro (individuals), mezzo (groups and families), and macro (community and organizations) perspectives and various theoretical frameworks. Apply core social work competencies.

SOCWK-430 Social Work Practice Methods: Individuals

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of individuals (micro) social work practice: client interviewing, evidence-based assessments and interpersonal skills. Linkage to families, groups and communities/organizations. Apply social work competencies.

SOCWK-440 Social Work Practice Methods: Groups and Families

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of groups/families (mezzo) social work practice: group dynamics and processes, group development and family dynamics with intervention strategies. Linkage to individuals and communities/organizations. Apply core social work competencies.

SOCWK-450 Social Work Practice Methods: Communities & Organizations

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of communities and organizations (macro) social work practice: advocacy, community needs assessments, coalitions, board of directors, leadership, fundraising and policy. Linkage to individuals and groups with families. Apply core social work competencies.

Note:

**Select 23 credits if in the Special Studies concentration*

Concentrations (23 credits)

A minimum grade of 2.5 is required in all concentration courses.

Independent Living Rehabilitation (24 credits)

Required Courses (14 credits)

COUN-406 Peer Supervisory Experience

(1 cr.)

Repeatable for Credit: Yes

Experience in observation and feedback to peers undergoing counseling skill training.

Instructor's Consent Required

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

REHAB-350 Independent Living

(2 cr.)

Repeatable for Credit: No

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-360 Assistive Technology

(2 cr.)

Repeatable for Credit: No

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed.

REHAB-480 Advanced Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: No

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration.

Department Consent

Prerequisite: take REHAB-398

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

Selectives (10 credits)

FCSE-385 Family Housing

(3 cr.)

Repeatable for Credit: No

Individual/family's housing needs and resources as a basis for family and consumer education programs. The impact of historical, environmental, social, cultural, and technological, aesthetic, and design influences.

FN-102 Nutrition for Healthy Living

(2 cr.)

Repeatable for Credit: No

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition- exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well- being.

HDFS-115 Healthy Couple Relationships

(3 cr.)

Repeatable for Credit: No

Intimate relationship development; characteristics of diverse committed relationships. Elements of healthy relationships and issues leading to relationship dissolution. topics include: self-awareness, communication, love, commitment, sexualities, sexual decision-making, partner selection, and relationship dysfunctions. Realistic expectations about intimate relationships.

HDFS-255 Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

HDFS-340 Human Development: Middle to Late Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of middle and late adulthood. Analysis of intragenerational and intergenerational relationships. Critical evaluation of societal impacts on adults and their families. Develop a sensitive and informed approach to effectively working with midlife and older adults.

Prerequisite: take HDFS 124 and HDFS 330

PSYC-371 Introduction to Health Psychology

(3 cr.)

Repeatable for Credit: No

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies.

Prerequisites: must have 10 credits in PSYC courses

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

- REHAB-X99 Independent Study

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work. Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

SOCWK-420 Human Behavior in the Social Environment

(3 cr.)

Repeatable for Credit: No

Biological, ecological, sociological, psychological, cultural, and spiritual development throughout the life cycle. Human development with the social environment emphasis from micro (individuals), mezzo (groups and families), and macro (community and organizations) perspectives and various theoretical frameworks. Apply core social work competencies.

Individualized (23 credits)

Select 23 credit in conjunction with and approved by program director.

Psychiatric Rehabilitation (23 credits)

PSYC-361 Abnormal Psychology

(3 cr.)

Repeatable for Credit: No

Symptoms, causes, and treatment of various psychological disorders; historical changes in conceptualization and classification of psychological disorders; ethical, legal, and professional issues associated with psychological disorder diagnosis and treatment.

SPED-447 Emotional and Behavioral Problems of Children and Adolescents

(3 cr.)

Repeatable for Credit: No

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

PSYC-120 Psychology of Adjustment

(3 cr.)

Repeatable for Credit: No

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

REHAB-327 Psychiatric Rehabilitation

(3 cr.)

Repeatable for Credit: No

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take REHAB-230 and PSYC-361

REHAB-333 Adolescent Substance Use and Abuse

(2 cr.)

Repeatable for Credit: No

Major concepts, current trends, and culturally sensitive approaches in the assessment, prevention and treatment of adolescent

alcohol and drug addiction.

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-462 Absence Management

(3 cr.)

Repeatable for Credit: No

Orientation to workers with disabilities in business and industry. Focus on reducing disability related costs, and the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business, community resources, and rehabilitation.

REHAB-480 Advanced Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: No

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration.

Department Consent

Prerequisite: take REHAB-398

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

Rehabilitation Service Specialist (23 credits)

Required Courses (16 credits)

COUN-406 Peer Supervisory Experience

(1 cr.)

Repeatable for Credit: Yes

Experience in observation and feedback to peers undergoing counseling skill training.

Instructor's Consent Required

HDFS-225 Skill Training for Individual/Family Interventions

(3 cr.)

Repeatable for Credit: No

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings.

PSYC-120 Psychology of Adjustment

(3 cr.)

Repeatable for Credit: No

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

REHAB-480 Advanced Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: No

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration.

Department Consent

Prerequisite: take REHAB-398

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

Selectives (7 credits)

COUN-494 Counseling Older Persons

(2-3 cr.)

Repeatable for Credit: No

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

HDFS-310 Family Stress, Coping and Adaptation

(1 cr.)

Repeatable for Credit: No

Impact of family development and stress on individual and family well-being.

HDFS-332 Death and Bereavement

(3 cr.)

Repeatable for Credit: No

Significance of death and bereavement for the American culture, individual and family. Special consideration given to major tasks of grieving for children and adults.

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

REHAB-321 Rehabilitation of Public Offenders

(3 cr.)

Repeatable for Credit: No

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

REHAB-483 Vocational Counseling Issues

(2 cr.)

Repeatable for Credit: No

Theoretical and applied approaches to vocational counseling and current research in vocational choice and career development as related to vocational counseling.

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

- REHAB-X99 Independent Study (1.00-3.00 cr.)

SOC-340 Sociology of Work

(3 cr.)

Repeatable for Credit: No

Human behavior in various types of employment and occupations; trends in U.S. occupational structure.

SOCWK-420 Human Behavior in the Social Environment

(3 cr.)

Repeatable for Credit: No

Biological, ecological, sociological, psychological, cultural, and spiritual development throughout the life cycle. Human development with the social environment emphasis from micro (individuals), mezzo (groups and families), and macro (community and organizations) perspectives and various theoretical frameworks. Apply core social work competencies.

Social Work (25 credits)

HDFS-255 Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

HDFS-335 Critical Cultural Competence

(3 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

Critical cultural competence and application to individuals and families. Systems of privilege and oppression. How socio-historical contexts shape interpersonal dynamics. Self-examination of cultural assumptions. Practice in critically thinking about difference and how to connect across differences.

REHAB-480 Advanced Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: No

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration.

Department Consent

Prerequisite: take REHAB-398

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work.

Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

SOCWK-420 Human Behavior in the Social Environment

(3 cr.)

Repeatable for Credit: No

Biological, ecological, sociological, psychological, cultural, and spiritual development throughout the life cycle. Human development with the social environment emphasis from micro (individuals), mezzo (groups and families), and macro (community and organizations) perspectives and various theoretical frameworks. Apply core social work competencies.

SOCWK-430 Social Work Practice Methods: Individuals

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of individuals (micro) social work practice: client interviewing, evidence-based assessments and interpersonal skills. Linkage to families, groups and communities/organizations. Apply social work competencies.

SOCWK-440 Social Work Practice Methods: Groups and Families

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of groups/families (mezzo) social work practice: group dynamics and processes, group development and family dynamics with intervention strategies. Linkage to individuals and communities/organizations. Apply core social work competencies.

SOCWK-450 Social Work Practice Methods: Communities & Organizations

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of communities and organizations (macro) social work practice: advocacy, community needs assessments, coalitions, board of directors, leadership, fundraising and policy. Linkage to individuals and groups with families. Apply core social work competencies.

Substance Abuse Counseling (23 credits)

Required Courses (20 credits)

- HDFS-426 Substance Abuse and the Family (1 cr.)

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-333 Adolescent Substance Use and Abuse

(2 cr.)

Repeatable for Credit: No

Major concepts, current trends, and culturally sensitive approaches in the assessment, prevention and treatment of adolescent alcohol and drug addiction.

REHAB-327 Psychiatric Rehabilitation

(3 cr.)

Repeatable for Credit: No

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take REHAB-230 and PSYC-361

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-480 Advanced Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: No

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration.

Department Consent

Prerequisite: take REHAB-398

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

Selectives (3 credits)

HDFS-456 Abuse and the Family

(3 cr.)

Repeatable for Credit: No

Definition and analysis of types of abuse in family context. Interrelationship of victims, perpetrators, other family members, helping professionals, social context. Risk factors, effects, reporting and recovery.

Prerequisites: take HDFS-115 and HDFS-215

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

REHAB-315 Rehabilitation and Criminal Justice

(3 cr.)

Repeatable for Credit: No

Criminal justice system: process and individual rights. Crime data and criminal law, policing, adjudication. Process roles of corrections and professionals. Disability: demographics, issues and responses.

REHAB-321 Rehabilitation of Public Offenders

(3 cr.)

Repeatable for Credit: No

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-350 Independent Living

(2 cr.)

Repeatable for Credit: No

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-483 Vocational Counseling Issues

(2 cr.)

Repeatable for Credit: No

Theoretical and applied approaches to vocational counseling and current research in vocational choice and career development as related to vocational counseling.

Electives (3 credits)

Courses/credits may be selected from any category to meet the 120-credit requirement.

COUN-494 Counseling Older Persons

(2-3 cr.)

Repeatable for Credit: No

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

(3 credits required)

REHAB-355 Rehabilitation of the Older Disabled Worker

(2 cr.)

Repeatable for Credit: No

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables

continued participation in the work force or reinsertion into it following disability.

HDFS-456 Abuse and the Family

(3 cr.)

Repeatable for Credit: No

Definition and analysis of types of abuse in family context. Interrelationship of victims, perpetrators, other family members, helping professionals, social context. Risk factors, effects, reporting and recovery.

Prerequisites: take HDFS-115 and HDFS-215

PSYC-333 Drugs and the Brain

(3 cr.)

Repeatable for Credit: No

Comparison of psychoactive drug classes, including drugs used for treatment of psychological disorders, recreational drugs, and illegal drugs, with focus on brain and behavior. Evaluation of role of psychological, biological, and sociological factors in drug use and abuse.

Prerequisite: Take PSYC-110

RC-371 Alcohol, Drugs and Accident Prevention

(3 cr.)

Repeatable for Credit: No

Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers.

Department Consent

SOC-360 Sociology of Juvenile Delinquency

(3 cr.)

Repeatable for Credit: No

Theories of delinquency, criminal behavior, and social control in relation to modern institutions in American culture.

Prerequisite: take SOC-110

SPED-300 Introduction to Individuals with Cognitive Disabilities

(3 cr.)

Repeatable for Credit: No

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons.

SPED-301 Learning Disabilities

(3 cr.)

Repeatable for Credit: No

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults.

Retail Merchandising and Management, B.S.

Go to [program website](#)

Introduction

The Retail Merchandising and Management (RMM) program prepares graduates for leadership roles in corporate, regional or store-level management positions in the retail industry and support areas. Students explore the functional retail areas of buying, sourcing, merchandising, marketing promotions, operations, logistics, and accounting in omnichannel, internet and store-based retail organizations. The program of study can be tailored to the student's area of career interest by choosing from among three concentrations in Buying and Product Management, Fashion Marketing, and Store Operations Management and by holding an associates of science or associates of applied science degree, or earning a minor/specialization in an area that complements their choice of concentration.

A highlight of the program is the senior-level retail practicum or co-op/internship in which students work in management-level positions in the retail industry. Numerous opportunities are available for travel and study abroad experiences to enhance the educational programming. Graduates of this program are prepared for entry-level managerial positions in merchandise planning, buying, and management; omnichannel store management and operations; customer experience and marketing in multi-channel, e-Commerce, and store-based retailing. Although specific job titles vary by organization, graduates of the program have been recruited to fill such positions as business analyst, product allocation specialist, executive team lead, sourcing specialist, department manager, assistant store manager, manager trainee, assistant buyer, pricing analyst, unit development leader, retail operations manager and visual merchandising/space management planner. The B.S. in Retail Merchandising and Management degree program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP).

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Professional Studies	40-43 credits
Concentration	23-30 credits
Minor/Specialization	7-17 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

**Students can select RES courses that also satisfy General Education (GE), Global Perspectives (GLP), or Professional Studies requirements.*

Global Perspective (6 credits*)

Complete 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

**Students can select GLP courses that also satisfy General Education (GE), Racial and Ethnic Studies (RES), or Professional Studies requirements.*

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style,

grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

MATH-123 Finite and Financial Mathematics with Applications

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Topics in business-related mathematical problem solving including simple and compound interest, annuities, mortgages, supply and demand, break-even analysis. Best-fit lines, problem solving with systems of linear equations, linear programming, matrices, Gaussian elimination, set theory, Venn diagrams, permutations, combinations, basic and conditional probability, expected value.

Prerequisites: Math Placement Level 2 or completion of MATH-90 with a grade of C+ or better.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

GEOG-104 World Geography

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

An introduction to how the discipline of geography makes sense of the world, its diverse people, places, and regions. Emphasis is on the interaction between culture and landscape and how those interactions create unique places.

Note(s):

Other concentrations choose 3 additional credits from areas including anthropology, geography, political science, psychology and sociology.

Cross-disciplinary Issues (3 credits)

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any General Education category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Professional Studies (40-43 credits)

Students must complete 500 hours of approved and verified retail work experience (excluding hours worked in BURTL-449 Cooperative Education Experience). Overall 2.0 GPA required for graduation. Required and Selective courses cannot be taken for

credit/no credit. BURTL-449 Cooperative Education Experience cannot be taken during last session/term before graduation.

BURTL-105 Introduction to Retail Merchandising & Management

(1 cr.)

Repeatable for Credit: No

Explore structure, trends and careers in the retail business. Understand the requirements for earning a degree in Retail Merchandising and Management, and identify resources designed to help students succeed at UW-Stout.

BURTL-127 Basic Merchandising

(3 cr.)

Repeatable for Credit: No

Analyzing the retailing process, the environment within which it operates, and the institutions and functions that are performed. A foundation for students who plan to work in retailing or related disciplines.

BURTL-229 Visual Merchandising

(3 cr.)

Repeatable for Credit: No

Specialized study and application of merchandise/ product presentation techniques for individual displays and store designs. Interpreting basic design elements and principles for display; selecting and using of appropriate tools, fixtures, and materials; coordinating visual presentations and other promotional activities to achieve marketing objectives.

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world. Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BURTL-329 Retail Promotions

(3 cr.)

Repeatable for Credit: No

Planning and execution of all the promotional messages used to communicate with members of a target market.

Prerequisite: take BURTL-127

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

BURTL-390 Merchandise Planning and Control

(4 cr.)

Repeatable for Credit: No

Techniques for financial and unit planning, procurement and control of inventories for successful retail operations.

Prerequisites: Complete any GE Math course and BUACT-206

BURTL-327 Store Management

(3 cr.)

Repeatable for Credit: No

Develop management skills for retail stores of varying size.

Prerequisites: take BURTL 390

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330

BURTL-425 Current Retail Strategies for a Differential Advantage

(2 cr.)

Repeatable for Credit: No

Comparative analysis of specific retail corporations' strategies to gain a differential advantage with their merchandising and operational methodology.

Prerequisites: Must be Senior level and have taken BURTL-127

Senior Capstone Selective (3-6 credits)

Select both practicum courses or the co-op experience.

BURTL-450 Retail Practicum I

(3 cr.)

Repeatable for Credit: No

Strategic planning for merchandising and operating the retail laboratory store to include market analysis, assortment planning, product development, merchandise procurement, promotional planning, merchandise presentation, and store layout needed for the long-term success of a retail business.

Prerequisites: take BURTL-390

BURTL-451 Retail Practicum II

(3 cr.)

Repeatable for Credit: No

Structured experience in executing the long-term and seasonal strategic plans developed in Retail Practicum I, to include the evaluation of retail performance and projections for continuing operation of the retail laboratory store.

Prerequisites: take BURTL-450

BURTL-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

International Selective (3 credits)

Select one course:

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BUINB-367 International Management

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: Take BUMGT-304

BUINB-485 International Marketing

(3 cr.)

Repeatable for Credit: No

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms.

Prerequisites: take BUMKG-330

Concentrations (23-30 credits)

Declare one concentration.

Buying and Product Management (30 credits)

Required (27 credits)

APRL-167 Textiles I: Theory, Fibers and Structures

(3 cr.)

Repeatable for Credit: No

Study of fibers, yarns, textiles, and textile manufacturing processes, and how target market needs are addressed through textile selection.

APRL-211 History and Culture of Fashion

(3 cr.)

Repeatable for Credit: No

A study of the changes in fashion including trends, designers and cultural norms through analysis of silhouette, construction, and styling.

APRL-272 Quality Analysis of Sewn Products

(3 cr.)

Repeatable for Credit: No

Analysis of sourcing and materials for quality product performance and specification development.

Prerequisite: Take APRL-167

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

BURTL-212 Trend Tracking and Forecasting

(3 cr.)

Repeatable for Credit: No

Tracking and forecasting of product and consumer trends based on product lifecycle trends, fashion theories, socioeconomic and cultural factors, lifestyles, psychographic and demographic trends in the marketplace.

BURTL-319 International Economic Trends in Textiles and Clothing

(3 cr.)

Repeatable for Credit: No

Economic importance of the textile and apparel industries in the United States and the world.

Prerequisites: take APRL 167 and ECON-210

BURTL-395 Assortment Planning

(3 cr.)

Repeatable for Credit: No

Methods of optimizing retail product assortments to gain a competitive advantage

Prerequisites: take BURTL-390 and APRL 272

BURTL-490 Advanced Merchandise Planning Control

(3 cr.)

Repeatable for Credit: No

Application of merchandise theory and techniques to budget, manage, and adjust actual purchases, inventory, and sales of an actual retail business.

Prerequisite: take BURTL-390 with a "B" (3.0) or better.

Product Management Selective (3 credits)

Select one course.

APRL-250 Textiles II: Evaluation

(3 cr.)

Repeatable for Credit: No

Evaluation of materials and products using industry testing equipment, procedures, and standards.

Prerequisite: Take APRL-167

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

Fashion Marketing (23-25 credits)

Required (15 credits)

APRL-167 Textiles I: Theory, Fibers and Structures

(3 cr.)

Repeatable for Credit: No

Study of fibers, yarns, textiles, and textile manufacturing processes, and how target market needs are addressed through textile selection.

APRL-211 History and Culture of Fashion

(3 cr.)

Repeatable for Credit: No

A study of the changes in fashion including trends, designers and cultural norms through analysis of silhouette, construction, and styling.

BURTL-212 Trend Tracking and Forecasting

(3 cr.)

Repeatable for Credit: No

Tracking and forecasting of product and consumer trends based on product lifecycle trends, fashion theories, socioeconomic and cultural factors, lifestyles, psychographic and demographic trends in the marketplace.

BURTL-417 Social/Psychological Aspects of Clothing

(3 cr.)

Repeatable for Credit: No

Social and psychological influence of dress on individual and group behavior patterns.

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

Language Selective (2-4 credits)

Select one course.

SPAN-101 Elementary Spanish I

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Develop a solid foundation in the fundamental elements of Spanish: listening, speaking, reading, and writing. Cultures of Spanish-speaking peoples throughout the world, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Not available for credit to students who took SPAN-121 or SPAN-122.

Prerequisite: Not available for credit to students who took SPAN-121 or SPAN-122

SPAN-102 Elementary Spanish II

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Second level of understanding, speaking, reading and writing in Spanish. topics in the culture of Spanish-speaking people, including

those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers. Requires one year of H.S. Spanish or SPAN-101 or SPAN-122.

Prerequisite: Spanish Placement Test or SPAN-101

SPAN-121 Practical Spanish I

(2 cr.)

Repeatable for Credit: No

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in Hispanic and Hispanic-American cultural context. Not available for credit to students who took SPAN-101.

Not for credit to students who took SPAN-101.

SPAN-122 Practical Spanish II

(2 cr.)

Communication Skills

Repeatable for Credit: No

Second quarter college Spanish. Vocabulary, conversational patterns, irregular present tense verbs, regular and some irregular preterit verbs; object pronouns. Spanish language in the context of Hispanic culture. Not available for credit to students who took SPAN-101. One semester of H.S. Spanish or SPAN-121 is required.

Prerequisite: take SPAN-121; not available for credit to students who took SPAN-101.

REHAB-305 Sign Language I

(3 cr.)

Communication Skills

Repeatable for Credit: No

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

- XXX-XXX - Other language course approved by the Program Director

Advanced Marketing (6 credits)

BUMKG-350 Digital Marketing Strategy and Practice

(3 cr.)

Repeatable for Credit: No

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans.

BUMKG-385 Target Marketing

(3 cr.)

Repeatable for Credit: No

The study and application of methods used to identify viable market segments; use of demographic, psychographic and cultural

research findings to successfully market products and services to various market segments.
Prerequisites: take BUMKG-330

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

BUMKG-479 Marketing Research

(3 cr.)

Repeatable for Credit: No

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management.

Prerequisites: take BUMKG-330 & either STAT 130, STAT-320, or STAT-331

- XXX-XXX - Other marketing-related course approved by advisor

Store Operations Management (25-28 credits)

Required (18 credits)

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

COMST-414 Interviewing

(3 cr.)

Repeatable for Credit: No

Principles and techniques for interviewing in both employment and information-gathering contexts.

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

Store Operations Management Selectives (7-10 credits)

Language Selective (2-4 credits)

Select one course.

SPAN-101 Elementary Spanish I

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Develop a solid foundation in the fundamental elements of Spanish: listening, speaking, reading, and writing. Cultures of Spanish-speaking peoples throughout the world, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Not available for credit to students who took SPAN-121 or SPAN-122.

Prerequisite: Not available for credit to students who took SPAN-121 or SPAN-122

SPAN-102 Elementary Spanish II

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Second level of understanding, speaking, reading and writing in Spanish. topics in the culture of Spanish-speaking people, including those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers. Requires one year of H.S. Spanish or SPAN-101 or SPAN-122.

Prerequisite: Spanish Placement Test or SPAN-101

SPAN-121 Practical Spanish I

(2 cr.)

Repeatable for Credit: No

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in Hispanic and Hispanic-American cultural context. Not available for credit to students who took SPAN-101.

Not for credit to students who took SPAN-101.

SPAN-122 Practical Spanish II

(2 cr.)

Communication Skills

Repeatable for Credit: No

Second quarter college Spanish. Vocabulary, conversational patterns, irregular present tense verbs, regular and some irregular preterit verbs; object pronouns. Spanish language in the context of Hispanic culture. Not available for credit to students who took SPAN-101. One semester of H.S. Spanish or SPAN-121 is required.

Prerequisite: take SPAN-121; not available for credit to students who took SPAN-101.

REHAB-305 Sign Language I

(3 cr.)

Communication Skills

Repeatable for Credit: No

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

- XXX-XXX - Other language approved by the Program Director

Leadership Selective (2-3 credits)

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

INMGT-430 Employee Involvement: Work Teams

(2 cr.)

Repeatable for Credit: No

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods.

Must be Senior level or higher

MSL-101 Introduction to the Army

(1 cr.)

Repeatable for Credit: No

Students will examine the Army Profession and cover an overview of the US Army. The focus is on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the ROTC program, its purpose in the Army, and advantages for the students.

MSL-102 Foundations of Agile and Adaptive Leadership

(1 cr.)

Repeatable for Credit: No

Discuss the personal development of life skills such as critical thinking, time management, goal setting, communication and how they play a role in the US Army. Understand the personal challenges and competencies that are critical for effective leadership and receive an introduction to the basics of Army tactics and equipment.

- *XXX-XXX - Other leadership course approved by Program Director*

Problem-Solving Selective (3 credits)

Select one course.

LOG-250 Critical Thinking

(3 cr.)

Repeatable for Credit: No

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies.

LOG-301 Introduction to Logical Thinking

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem-solving strategies based on induction and on categorical and propositional deduction.

Minor, Specialization, or Associates of Applied Science or Associates of Science Degree (not Retail) in Complementary Area (7-17 credits)

Select from the university minor and specialization listing, in consultation with your advisor. An earned associates of applied science or associates of science degree can be applied towards the degree, with program director approval. Degree completion requires 120 minimum total credits.

Science Education, B.S.

Go to [program website](#)

Science Education, B.S.: 4-year sequence

Introduction

The B.S in Science Education program at UW-Stout prepares students for a career teaching science at the middle and high school level. Students in the program may choose to complete two of the following science teaching certifications: broadfield science, biology, chemistry, physics, earth and space science, and environmental science.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical

Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from literature (3 credits) and creative/performing arts (1-3 credits). Remaining credits must be from art history/music & theater appreciation, foreign language and culture, history, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Cross-disciplinary Issues (3 credits)

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

Social Responsibility and Ethical Reasoning (3 credits)

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

Selective (3 credits)

BIO 111 provides 1 credit; choose 2 additional credits from any general education area.

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Professional Education (24 credits)

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

STMED-101 Introduction to Math and Science Education

(2 cr.)

Repeatable for Credit: No

Overview of math and science education programs, roles and responsibilities of math and science teachers, state and professional standards, history of math and science education, professional resources, curriculum, instruction, assessment, and classroom management.

STMED-185 Pre-Student Teaching

(1 cr.)

Repeatable for Credit: No

Introductory field experience and seminar includes observing, analyzing, and experiencing teaching in a public school setting. Minimum of 50 hours completed.

Prerequisite: Background check required.

STMED-260 Curriculum Methods & Assessment for Science & Technology

(3 cr.)

Repeatable for Credit: No

Development of rationales, goals, content outlines, outcomes, objectives, activities, and assessment items.

Prerequisite: take STMED-101 or STMED-160

STMED-360 Pre-Student Teaching in Science Technology and Math Education

(1 cr.)

Repeatable for Credit: No

Observing, analyzing, experiencing, and reflecting on teaching in public school settings for STMED pre-service teachers. Department Consent

Prerequisites: Take STMED-101 or STMED-160, Benchmark 1 must be complete & background check is required.

STMED-390 Laboratory and Classroom Management in Science and Technology

(3 cr.)

Repeatable for Credit: No

Laboratory and classroom management strategies, conflict resolution, syllabi, paperwork, grading, communication, managing facilities

and equipment, purchasing, maintenance, storage, lab and material safety, safety equipment, liability, and negligence.

Prerequisite: Benchmark I Completed

STMED-401 Capstone: Math and Science Education

(1 cr.)

Repeatable for Credit: No

Synthesis of material learned in the math and science education program and study of educational research, evidence-based practice, and professional development.

Prerequisite: Benchmark I completion

STMED-460 Teaching Methods for Science and Technology Education

(3 cr.)

Repeatable for Credit: No

Development and implementation of lessons, demonstrations, learning activities, and formative assessments.

Prerequisites: Benchmark I completion and STMED-260

Student Teaching/Internship (16 credits)

Select 16 credits of student teaching or teaching internship from approved list.

- SCIED-XXX *Student Teaching* (16.00 cr.)

Science Courses (40 credits)

*Students must complete at least one major certification and one different **major** or **minor** certification.*

Broadfield Science: Major Certification (28 credits)

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

PHYS-255 Meteorology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Physical processes that determine properties of the earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics.

PHYS-258 Introduction to Geology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

Biology: Major Certification (28 credits)

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

- Additional 13 credits of approved biology electives.

Chemistry: Major Certification (28 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

- *Additional 11 credits of chemistry above the introductory level.*

Physics: Major Certification (28 credits)

ET-260 Electrical Circuits

(3 cr.)

Repeatable for Credit: No

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take ET 204, MATH 153 and either PHYS 242 or PHYS 282

PHYS-151 Astronomy

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Scientific method of observing, measuring, and theorizing applied to the solar system, planets, stars, galaxies and the universe.

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

- *Additional 12 credits of physics above the introductory level.*

Biology: Minor Certification (18 credits)

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

- *Additional 9 credits of biology above the introductory level.*

Chemistry: Minor Certification (18 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

- *Additional 8 credits of chemistry above the introductory level.*

Earth and Space Science: Minor Certification (18 credits)

PHYS-151 Astronomy

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Scientific method of observing, measuring, and theorizing applied to the solar system, planets, stars, galaxies and the universe.

PHYS-255 Meteorology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Physical processes that determine properties of the earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics.

PHYS-258 Introduction to Geology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

PHYS-358 Soil Science and Conservation

(4 cr.)

Repeatable for Credit: No

Soil formation and the relationship of its physical, chemical, and biological properties to natural and agricultural ecosystems, with

implications for sustainable management.
Prerequisites: Take CHEM-135 and PHYS-258

GEOG-251 Introduction to Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Experience, using state of the art GIS and GPS equipment and theoretical background explaining the many roles GIS technology has in displaying analyzing spatial problems. Major components include computer representation of geographic information, fundamentals of cartography, construction of GIS databases, spatial analysis, and application areas of GIS.

- *Additional 3 credits of approved earth and space science electives.*

Environmental Science: Minor Certification (18 credits)

BIO-242 Botany

(5 cr.)

Repeatable for Credit: No

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

PHYS-258 Introduction to Geology

(2 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

PHYS-358 Soil Science and Conservation

(4 cr.)

Repeatable for Credit: No

Soil formation and the relationship of its physical, chemical, and biological properties to natural and agricultural ecosystems, with implications for sustainable management.

Prerequisites: Take CHEM-135 and PHYS-258

- *Additional 3 credits of approved environmental science electives.*

Physics: Minor Certification (18 credits)

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

- *Additional 8 credits of physics above the introductory level.*

Note(s):

* *Student must earn a "C" or better in all professional education and introductory science courses.*

Teacher Education Requirements

To be endorsed for a teaching license in the State of Wisconsin, students must complete several Benchmark Assessments. Detailed information is online at: <http://www.uwstout.edu/soe/current/benchmarks.cfm>.

Special Education, B.S.

Go to [program website](#)

Special Education, B.S.: 4-year sequence

Introduction

The B.S. in Special Education prepares teachers to be reflective practitioners who demonstrate knowledge, skills and dispositions relative to planning and preparation, the classroom environment, instruction, and professional responsibilities. The UW-Stout framework is compatible with the national Council for Exceptional Children (CEC) knowledge and skill base for all beginning special education teachers. Special education is founded on the philosophy of advocacy for persons with exceptionalities and their families, and of embracing and teaching to individual differences and needs. Special educators must know the characteristics of the learners they serve, possess the skills to design effective interventions and the dispositions to practice within the standards established by CEC.

Curriculum of the program prepares teachers of students with cognitive, emotional/behavioral, and learning disabilities. Graduates of the program will be prepared to work with students with CD, E/ BD, and LD, with an emphasis on Cognitive Disabilities. Graduates of the program will be prepared to work at the early childhood through middle childhood level and the early adolescence through adolescence level.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	44 credits
Major Studies	76 credits

Students must demonstrate proficiency in American Red Cross First Aid procedures, either by verifying current certification with their adviser, or by satisfactory completion of HLTH-340 ARC Standard First Aid and Personal Safety (*adding 1 credit to the program credit total*).

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (44 credits)

Communication Skills* (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

MATH-118 Concepts of Mathematics

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Introductory concepts in mathematics such as functions, sets, geometry, combinatorics, probability and other current mathematical topics, along with practical applications to modern life.

Prerequisite: Math Placement Level 2 or completion of MATH 90

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

- BIO-XXX Any approved biology w/lab (4 cr.)

Arts and Humanities (6 credits)

Remaining course must be from area including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy. (No more than one class at the 100 level.)

- LIT-XXX Any Literature (3 cr.)

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

POLS-210 American Government

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Cross-disciplinary Issues (3 credits)

Courses must be from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

PHIL-235 General Ethics

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical valuing process: principal ethical theories and their application to common human problems.

Selectives (7 credits)

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

- CHEM-XXX Chemistry *or*
- PHYS-XXX Physics (4.00 cr.)

Major Studies (76 credits)

Professional Education Core* (20 credits)

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

EDUC-415 Classroom Management

(2-3 cr.)

Repeatable for Credit: No

Technique and theory for motivating PreK-grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences.

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

RDGED-414 Literacy Instruction and Assessment in the Primary Grades

(5 cr.)

Repeatable for Credit: No

Balanced approach to scientifically based literacy instruction in the primary grades to include theoretical frameworks of literacy learning, program organization, effective instructional strategies, assessments, and informal evaluation techniques as related to instructional planning. Phonemic awareness, phonics, word study, fluency, comprehension, and vocabulary instruction.

Prerequisites for BS ECE students: ECE-421, ECE-435, and ECE-480 Prerequisites for BS Spec Ed students: completion of Benchmark I

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

Major Studies* (56-59 credits)

SPED-100 Introduction to Special Education

(1 cr.)

Repeatable for Credit: No

Introduction to the special education profession. Survey of the history, philosophy, mission, legislation, issues, organization, and resources associated with the profession; and introduction to the professional standards and content guidelines.

SPED-300 Introduction to Individuals with Cognitive Disabilities

(3 cr.)

Repeatable for Credit: No

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons.

SPED-301 Learning Disabilities

(3 cr.)

Repeatable for Credit: No

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults.

SPED-322 Curriculum & Instruction: Severe Disabilities

(2 cr.)

Repeatable for Credit: No

Curriculum and instruction strategies for teaching functional academics, personal/social, vocational, and community living skills to individual with severe and profound disabilities.

Prerequisites: take SPED-300 and SPED-430

SPED-323 Mild Disabilities: Social Studies and Science

(3 cr.)

Repeatable for Credit: No

Curriculum and methods of teaching students with mild cognitive, learning, and emotional/behavioral disabilities in the content areas of social studies, science, and in general education. Strategies that facilitate integration, improve maintenance and generalization of skills, promote transitions, increase self-awareness and self-management, and compensate for learning deficits.

SPED-324 Curriculum & Instruction: Career & Transition Education

(3 cr.)

Repeatable for Credit: No

Curriculum and instruction for persons with disabilities in prevocational, career education, career preparation, and transition, stressing collaboration between education, community-based service providers, and families.

SPED-326 Pre-Student Teaching: Cognitive Disabilities

(2 cr.)

Repeatable for Credit: Yes

Supervised experience in observing, planning instruction, and teaching children and youth with cognitive disabilities in a cross-categorical school environment. Repeatable three times for credit.

Department Consent

Prerequisites: Benchmark 1 completion

SPED-328 Assessment for Individual Education/ Transition Plans

(3 cr.)

Repeatable for Credit: No

Diagnosing behavior and learning problems of students with exceptional education needs. Preparing individual educational and transitional plans based on comprehensive assessments.

Prerequisite: Benchmark I Completed

SPED-330 Introduction to Communication Disorders

(3 cr.)

Repeatable for Credit: No

Nature, causes of and methods used when working with individuals who have speech and language disorders.

SPED-338 Pre-Student Teaching Children/Youth with Disabilities

(2 cr.)

Repeatable for Credit: No

Supervised experience in observing, planning instruction, and teaching children and youth with disabilities in a cross-categorical school environment.

Prerequisite: Benchmark I Completed

SPED-420 Schools, Families and Community Collaboration

(3 cr.)

Repeatable for Credit: No

Theory, general principles and procedures for fostering collaborative partnerships among families, professionals, students and other service providers. Focuses on families with children who have disabilities.

SPED-440 Diagnosis and Remediation of Literacy and Math Disabilities

(4 cr.)

Repeatable for Credit: No

Curriculum, methods, assessment and remediation of teaching reading, math, and language to individuals with mild disabilities.

Strategies that assess and evaluate, monitor progress, increase, maintain and generalize skills, facilitate integration, and compensate for learning deficits in the general and special education curricula.

Prerequisites: Benchmark I completion

SPED-447 Emotional and Behavioral Problems of Children and Adolescents

(3 cr.)

Repeatable for Credit: No

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

SPED-481 Student Teaching: Special Education

(4-16 cr.)

Repeatable for Credit: Yes

Directed special education teaching and community experience in selected off-campus schools.

Department Consent

SPED-488 Intern Teaching: Special Education

(16 cr.)

Repeatable for Credit: No

An alternative method of obtaining Special Education student teaching experience. Interns receive license to teach and salaried appointment in a cooperating school for one semester.

Department Consent

Prerequisites: take SPED-323

SPED-490 Behavioral Interventions and Methods

(2 cr.)

Repeatable for Credit: No

Study and practice in Functional Behavioral Assessment (FBA) and Behavioral Intervention Planning (BIP) for students with social-emotional-behavioral issues and/or autism. Targeted behavior intervention planning addressed within a larger Positive Behavioral Interventions and Supports (PBIS) service-delivery model. Focus on assessment skills to produce data-driven environmental modifications, pro-social replacement behaviors, consequence strategies, and home-school interventions.

Prerequisite: Junior status or higher

PSYC-251 Child Psychology

(3 cr.)

Repeatable for Credit: No

Investigation of the psychological development of the growing child by considering physical, cognitive, social, and emotional development beginning in the prenatal environment and continuing through age 12.

Prerequisite: Take PSYC-110

PSYC-352 Adolescent Psychology

(3 cr.)

Repeatable for Credit: No

Investigation of the psychological development of the growing adolescent by considering physical, cognitive, social, emotional, and personality transitions between the ages of 13 and 20 years old.

Prerequisite: Take PSYC-110

HDFS-255 Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

Note(s):

** Required courses with a grade point of 2.0 (C) or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.*

*** Benchmark I completed and Admission to the School of Education required prior to enrollment*

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/current/ugbmi.cfm.

- Pass one of the following skills tests: PPST, CORE, ACT, SAT or GRE. Test scores and test completion dates must meet required specifications as detailed on the SOE web page listed above
- Pass the required teacher background check
- Earn a grade of at least 2.00 (C) in ENGL 101 or ENGL 102 or ENGL 111 and ENGL 112
- Earn a grade of at least 2.00 (C) in COMST 100
- Earn a minimum grade of 2.00 (C) in SPED-100 Introduction to Special Education course
- Complete EDUC-326 Foundations of Education.
- Satisfactorily complete Benchmark I Review

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/current/ugbmii.cfm.

- Complete electronic portfolio
- Receive satisfactory portfolio assessment by faculty

- Pass Content Knowledge Exam
- Receive clearance through an updated background check
- Attain a 2.75
- Complete a satisfactory tuberculosis test
- Submit copies of resume to the School of Education prior to student teaching
- Complete Application for Student Teaching form

Benchmark III: Program completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/current/ugbmiii.cfm.

- Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- Complete all program coursework
- Meet all program-specific requirements
- Student teach at three levels: infant/toddler/preschool, kindergarten and primary.
- Receive a satisfactory student teaching assessment

Studio Art, B.F.A.

Go to [program website](#)

Studio Art, B.S. 4-year sequences:

- [Studio Art, B.F.A. \(Ceramics\) Sequence](#)
- Studio Art, B.F.A. (Comics) Sequence
- [Studio Art, B.F.A. \(Contemporary Sculptural Practices\) Sequence](#)
- [Studio Art, B.F.A. \(Drawing\) Sequence](#)
- [Studio Art, B.F.A. \(Metals and Contemporary Art Jewelry\) Sequence](#)
- [Studio Art, B.F.A. \(Painting\) Sequence](#)
- Studio Art, B.F.A. (Photography) Sequence
- [Studio Art, B.F.A. \(Printmaking\) Sequence](#)

Introduction

The Bachelor of Fine Arts in Studio Art prepares students to become successful studio artists, entrepreneurs, and professionals in the visual arts industry. Students participate in applied learning in the studio, in traditional classrooms, and in professional and gallery settings.

Students may pursue a concentration in one of eight studio art disciplines: ceramics, comics, contemporary sculptural practices, drawing, metals and contemporary art jewelry, painting, photography, and printmaking.

Through the creation of original artwork and the study of liberal arts, art history, and contemporary art theory and practice, students develop the skills and knowledge needed to serve society with inquisitive attitudes and professional-level problem-solving capabilities.

Experienced faculty members teach the art and design courses and serve as student advisers. A required mid-program portfolio review offers students an overview of their progress in the major. A variety of international and domestic travel/study opportunities allow students to experience other cultures and places. Field experiences supplement educational theory and practice in a setting with working professionals. Extensive library resources and the School of Art and Design's Visual Resource Center are significant assets.

A 2.0 overall grade point average and a 2.5 or better in Art and Design department courses is required to complete this Bachelor of Fine Arts degree. Students must present an exhibition of their work during their senior year.

General Requirements Bachelor of Fine Arts Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	65 credits
Concentration Studio Requirements	18-24 credits

Studio Art, B.F.A. (Major Studies)

- Studio Art, B.F.A. (Ceramics Concentration)
- Studio Art, B.F.A. (Comics Concentration)
- Studio Art, B.F.A. (Contemporary Sculptural Practices Concentration)
- Studio Art, B.F.A. (Drawing Concentration)
- Studio Art, B.F.A. (Metals and Contemporary Art Jewelry Concentration)
- Studio Art, B.F.A. (Painting Concentration)
- Studio Art, B.F.A. (Photography Concentration)
- Studio Art, B.F.A. (Printmaking Concentration)

Supply Chain Management, B.S.

Go to [program website](#)

Supply Chain Management, B.S.: [4-year sequence](#)

Introduction

The Bachelor of Science Degree in Supply Chain Management will prepare students for a career in the supply chain profession by providing specialized training in an increasingly complex and highly technical field. The program integrates selected areas of engineering, business, management, operations, and processes.

The supply chain encompasses the flow of products and information across all companies from the lowest level supplier through the end customer. Supply Chain Managers focus on designing, managing, integrating and optimizing financial and operational performance of the supply chain. Key activities include: launching products, forecasting demand, managing inventory, sourcing suppliers, processing customer orders, planning and ordering materials, scheduling labor, materials and equipment, lean manufacturing, managing quality, managing logistics and transportation, warehousing, spare parts, and returns.

The program addresses knowledge, skills, and applied research essential to supply chain management, including instruction to improve customer service, minimize costs, improve quality as well as the application of best practices and the effective use of technology. Students participate in hands-on, capstone courses and internships to provide experiential learning. Efficient management of the supply chain is critical to the success of a company. Graduates find their skills to be in high demand.

Admission to the Program

Students may be admitted directly to the program, or if they do not meet at least one of the requirements below, may be accepted as Pre-Supply Chain Management. Students admitted in Pre-Supply Chain Management will remain until they meet the admission requirements.

- **Program Director Approval**
- **Supply Chain Management**

Students must have a composite ACT score of 22 or higher and ACT Math sub score of 22 or higher,
or

Students must have a cumulative GPA of 3.0 or higher, including transfer credits, and completion of a minimum of 54 credits in the B.S. Supply Chain Management Program Plan Sheet.

- **Pre-Supply Chain Management**

Students will be admitted into the Pre-Supply Chain Management program until the above requirements are met. At that time, the student may apply for admission into the B.S. Supply Chain Management degree program.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10-11 credits)

MATH-121 Introductory College Mathematics II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two-dimensional analytic geometry.

Prerequisite: Math Placement Level 3 or completion of MATH-120

MATH-123 Finite and Financial Mathematics with Applications

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Topics in business-related mathematical problem solving including simple and compound interest, annuities, mortgages, supply and demand, break-even analysis. Best-fit lines, problem solving with systems of linear equations, linear programming, matrices, Gaussian elimination, set theory, Venn diagrams, permutations, combinations, basic and conditional probability, expected value.

Prerequisites: Math Placement Level 2 or completion of MATH-90 with a grade of C+ or better.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

or

PHYS-211 Introduction to Physics

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science

Repeatable for Credit: No

Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies.

PHYS-212 Introduction to Physics: Lab

(1 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Measurement, analysis and presentation of laboratory data on basic physics concepts, including mechanics, fluids, heat, electricity, light and sound.

Corequisite: PHYS-211

or

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Course Selective-1 :

Choose a selective to fulfill credit requirements.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

(required for certain minors/second majors)

Course Selective-2 :

Choose a selective to fulfill credit requirements.

GEOG-104 World Geography

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

An introduction to how the discipline of geography makes sense of the world, its diverse people, places, and regions. Emphasis is on the interaction between culture and landscape and how those interactions create unique places.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

(Recommended - Prerequisite to required courses; ETECH-100 can be alternatively be used to satisfy Social Responsibility and Ethical Reasoning)

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selective (2 credits)

Course/credit may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Business and Management Core (31 credits)

BUSCM-100 Introduction to Supply Chain Management

(1 cr.)

Repeatable for Credit: No

Overview of the B.S. in Supply Chain Management with emphasis on planning, career opportunities, and emerging trends.

BUMGT-100 Introduction to Business Administration

(1 cr.)

Repeatable for Credit: No

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities.

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUACT-312 Cost Accounting

(3 cr.)

Repeatable for Credit: No

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting.

Prerequisite: take BUACT-206

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

Supply Chain Management Core (49 credits)

Supply Chain, Engineering and Operations Management (34 credits)

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

INMGT-296 Quantitative Methods in Production Operations Management

(3 cr.)

Repeatable for Credit: No

Necessary skills for planning and controlling production and operations. Various operations management and their practical implementation issues in product and service realization and logistics will be introduced.

Prerequisite(s): take STAT 130 or STAT 320 or STAT 330

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

INMGT-314 Enterprise Resource Planning Practicum

(3 cr.)

Repeatable for Credit: No

Practice of the functions within an enterprise, through the Enterprise Resource Planning System. Systems, Applications, and Products (SAP) virtual enterprise platform used to demonstrate how the physical work flow, electronic information exchange and financial flow are integrated into an enterprise.

Prerequisites: take INMGT 200 or INMGT 210 or BUMIS 333 or ICT 305

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-350 Facilities Planning

(3 cr.)

Repeatable for Credit: No

Study of facilities location, structure, and planning for efficient layout and material handling systems.

Prerequisite: take INMGT 200

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBok). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330

BUSCM-341 Global Supply Chain Modeling and Optimization

(1 cr.)

Repeatable for Credit: No

Introduction to problem solving and design techniques used to ensure the optimal operation of the supply chain, considering the relative changes to variables and the impact on overall costs. Advanced spreadsheet toolsets will enable the supply chain problem-solving and design techniques.

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

BUSCM-458 Negotiation and Contracts

(3 cr.)

Repeatable for Credit: No

Processes, analysis, techniques and strategies used to negotiate and develop contracts. Defining roles and importance of relationships. Identifying interests, developing and using power, creating and evaluating criteria, exploring options, analyzing offers, dealing with objections and impasses, reaching final agreement. Converting business agreements into contracts. Importance of fairness and ethics.

Prerequisite: take BUSCM 437

Select one of the following:

ETECH-251 Fundamentals of Plastics Materials and Processing

(3 cr.)

Repeatable for Credit: No

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisite: take ETECH 100, ETECH 110, ETECH 150, OR PKG 220

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

ETECH-253 Joining And Casting Processes

(3 cr.)

Repeatable for Credit: No

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Development of process designs and practices appropriate for product specifications, inspection and process control.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

Capstone Core (12 credits)

INMGT-405 Resource Planning and Materials Management Practicum

(3 cr.)

Repeatable for Credit: No

Provides students with specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. This course focuses on the first two of the five required APICS exams that lead to certification as a Certified in Production and Inventory Manager (CPIM).

Prerequisite: take INMGT-305

BUSCM-460 Supply Chain Management Design I Capstone

(4 cr.)

Repeatable for Credit: No

Synthesizing capstone experience focuses on planning, diagnosing and analyzing root causes of poor supply chain cost, service and operational performance. Students analyze and diagnose supply chains for strategy, organization, process, technology, business models, best practices, and information and material flow.

Prerequisites: take BUSCM-338, INMGT 296 , INMGT-320, INMGT 350, INMGT-365, INMGT-405, BUSCM-437, and BUACT 312.

BUSCM-461 Supply Chain Management Design II Capstone

(4 cr.)

Repeatable for Credit: No

Continuation of Supply Chain Design I focusing on design, model and recommended integrated supply chain solutions from the perspective of strategy, people, technology, business models, and best practices for managing the flow of goods and information across the supply chain.

Prerequisite: take BUSCM-460

Co-op - Select one of the following (1 credit required):

BUSCM-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUSCM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUSCM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Supply Chain Selectives (3 credits)

Students must select 3 credits from the list below. A student must take a Co-op or Internship under the "Capstone" section above. Additional Co-op or Internship credits may count as a "Supply Chain Selective". The same course cannot be counted in both sections.

BUSCM-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUSCM-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

BUSCM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ETECH-150 Introduction to Engineering Materials

(3 cr.)

Repeatable for Credit: No

Exposure to engineering materials, their properties, and behavior. topics will include: material types, testing, mechanical properties, heat treatment, and material selection. Students are expected to have had H.S. chemistry.

Math Placement >= MATH-120, or MATH-150

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

INMGT-475 Advanced Project Management

(3 cr.)

Repeatable for Credit: No

Advanced planning, control, and leadership of technical projects and programs. Topics covered include: project and program justification, project management maturity and methods, multiple project or portfolio management, project management in multinational cultures, virtual project teams, requirements definition, and outsourcing.

Prerequisites: take INMGT-365 or AEC-471. Senior standing.

INMGT-482 Business Analytics

(3 cr.)

Repeatable for Credit: No

Business needs and technology trends in analytics. Practical application of business analytic tools to determine key business performance indicators and use of these indicators to drive business and operations management decisions and actions.

Prerequisites: INMGT 314 and STAT 130 or MATH 123

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

- XXX-XXX Other Approved Course (2-3 cr.)

APICS Exams

Students shall take the sequence of exams required to obtain CPIM (Certified in Production and Inventory Management) professional certification offered by the Association for Supply Chain Management (ACSM). The exams and Association for Supply Chain Management is widely referred to and known as APICS.

Sustainable Management, B.S.

Go to [program website](#)

Suspended Admissions, Fall 2019

Introduction

The Bachelor of Science degree in Sustainable Management is a multidisciplinary program designed to help students gain a comprehensive understanding of the ways in which business structures, environmental processes and societal needs intersect. Corporations from across the country helped to develop the curriculum, believing in the value it will bring to their employees and their companies. The Sustainable Management program is a collaborative effort of UWExtension and four University of Wisconsin campuses: UW-Stout, UW-River Falls, UW-Superior, and UW-Parkside. It provides students with the knowledge and skills needed to create profitable businesses, vibrant communities, and a healthy environment. The program is a 21 course, 63-credit bachelor's degree completion program designed for working professionals, with all courses delivered online.

Students who have completed the first two years of a bachelor's degree, or have an associate's degree, may apply directly to the program. Students who need to complete general education requirements may do so online through UW-Stout or the UW Colleges.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style,

grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Course Selective-1 :

Choose a selective to fulfill credit requirements.

STAT-130 Elementary Statistics

(2 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability

and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages. Students may incur incidental expenses for software.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (80 credits)

Professional Preparation Selectives (17 credits)

Some SMGT courses have prerequisites. If you have not completed the prerequisites necessary as part of an associate's degree or prior coursework, you will need to take courses in consultation with your program director to fulfill this requirement.

Core Requirements (63 credits)

SMGT-115 Environmental Science and Sustainability

(3 cr.)

Repeatable for Credit: No

The interrelationships between humans and the environment. Important ecological concepts, human influence on the environment, and sustainable practices to avoid or ameliorate negative impacts. Ecological concepts are used throughout to identify, understand, and provide a better understanding of how humans can more positively affect the environment in which they live.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-220 Systems Thinking

(3 cr.)

Repeatable for Credit: No

Use of systems thinking to apply the concept of sustainability in various business, social, and scientific contexts. Rather than looking at a problem by analyzing component parts, students learn to analyze whole systems. Students model relationships and behaviors to identify leverage points for change.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-230 Triple Bottom Line Accounting for Managers

(3 cr.)

Repeatable for Credit: No

Financial and managerial accounting and how this information is used. Basic preparation of financial statements and their analytical use. How accounting information is applied by managers in decision-making process helping organizations meet the triple bottom line: strong profits, healthy environment, and vital communities.

Prerequisite: MATH 118 or higher. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-235 Economics in Society and Sustainability

(3 cr.)

Repeatable for Credit: No

Economic, social, and environmental issues facing society. Traditional issues such as markets and prices (microeconomics), government economic management (macroeconomics), and international trade. Introduction of economic content into analysis of selected topics such as poverty and discrimination, the environment, and the provision of government services. Critiques of conventional economic thought, within the context of systems thinking and ecological economics, and integrated throughout the course.

Prerequisite: MATH 118 or higher. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-240 Business Communications for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Interdisciplinary professional and technical communication course that examines rhetorical skills and strategies within the context of social, economic, and environmental sustainability careers.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-250 Sustainable Agriculture and Food Security

(3 cr.)

Repeatable for Credit: No

This course offers an in-depth assessment of the economic, social, and environmental considerations of production agricultural systems that provide safe, reliable, and affordable food supplies for a growing human population. In addition to the maintenance of the economic viability of production agricultural systems, course topics will focus on: the maintenance of soil, water, and air resources; addressing issues of biodiversity loss; and, maintenance of rural community character and economies. Economic, regulatory, and public entity tools that promote sustainability in production agriculture will also be addressed.

Prerequisites: take SMGT 115 For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-305 Climate Change and Sustainability

(3 cr.)

Repeatable for Credit: No

This course focuses on climate change science and greenhouse gases, natural and human impacts of climate change, and sustainable and efficient strategies to limit carbon emissions. The course is divided into three major areas: 1) climate science and measured impacts, 2) modelled predictions and mitigation/adaptation strategies, 3) sustainable and carbon neutral practices. This course will emphasize not only the economics of carbon budgeting and increasing efficiency but also the human role in creating and solving climate change and the discrepancies in who, where, and what will be impacted by both climate change and the necessary solutions.

Prerequisites: take SMGT 115 For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-310 Ecology for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Interrelationships of organisms with each other and their environments. Investigation into composition and dynamics of populations, communities, ecosystems, landscapes, and the biosphere with emphasis on sustainability. Enrollment in online Sustainable Management degree program required.

Prerequisite: BIO-GXX. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-320 Renewable Energy for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Sustainability as it relates to the world's increasing use of energy, considering the potential harm done via greenhouse gases released from burning fossil fuels and the prospects for large-scale implementation of more benign sources such as the sun, geothermal, wind, and water.

Prerequisite: MATH-GXX, For B.S. in Sustainable Management majors only or with permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-325 Natural Resource Management

(3 cr.)

Repeatable for Credit: No

The interdependence between natural resources associated with land, air, and water. Explores significant environmental issues regarding the policies and problems in the use and management of natural resources related to soils, vegetation, landscape within the context of social needs and sustainability.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-330 Marketing for a Sustainable World

(3 cr.)

Repeatable for Credit: No

Analysis of an organization's opportunities to develop sustainability practices as they relate to the development of product, pricing, supply and distribution channels (retail, wholesale), promotion (advertising, sales promotion, public relations) and target markets and reporting methodologies.

Prerequisite: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-332 Economics of Environmental Sustainability

(3 cr.)

Repeatable for Credit: No

Interaction between market activity and the environment, applies economic analysis to the efficient and sustainable management of environmental goods and resources, and examines how economic institutions and policies can be changed to bring the environmental impacts of economic decision-making more into balance with human desires and the needs of the ecosystem.

Prerequisite: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-335 Management and Environmental Information Systems

(3 cr.)

Repeatable for Credit: No

This course presents an overview different technologies and information systems used in modern organizations. It covers various information systems for analyzing organizational data and processes. It presents tools for managing projects, promoting collaboration, and teamwork in the workplace. This course provides students hands-on experience with the information systems and technology tools. It also covers technologies that promote sustainability and includes topics such as green computing and low-carbon technologies.

Prerequisites: Take SMGT-230. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-340 Organizational Behavior and Sustainability

(3 cr.)

Repeatable for Credit: No

Management principles and theories underlying human behavior in organizations are investigated. Topics include personality, motivation, communication, decision-making, leadership, teamwork, ethics, power, diversity, and work stress. Constraints and opportunities of an "eco" friendly organization and realized.

Prerequisite: Introductory Speech/Communication course. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-360 Environmental and Sustainability Policy

(3 cr.)

Repeatable for Credit: No

Topics include the spectrum of historical, theoretical and technical issues applicable to sustainable management of natural resources, environmental quality standards and risk management. Administrative structures the form the basis for selecting appropriate responses to complex management problems faced by industry, government and non-governmental agencies are identified. The historical development and current framework of public policy are investigated, and specific foundational legislation is critiqued.

Prerequisites: take SMGT-115. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-370 Logistics, Supply Chain Management, and Sustainability

(3 cr.)

Repeatable for Credit: No

Concepts, functions, processes, and objectives of logistics and supply chain management activities. Activities involved in moving raw materials, inventory, and finished goods from point of origin to point of use or consumption. Planning, organization and controlling such activities. The role of supply chain processes in creating sustainable competitive advantage with respect to quality, flexibility, lead-time, and cost. Customer service, inventory management, transportation, warehousing, supply; chain management, reverse logistics, green supply chains, and international logistics.

Prerequisite: take STAT 130. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-410 Corporate Social Responsibility and Sustainability

(3 cr.)

Repeatable for Credit: No

Corporate Social Responsibility (CSR) and the organization: First and foremost, this course will enable students to understand the rationale behind CSR and sustainability. This course takes students through an evaluation of risks and potential impacts in decision making, enabling them to recognize the links between the success of an organization and the well-being of a community/society. Additionally, methods and standards of integrating CSR throughout an organization, creating metrics and communicating CSR policies internally and externally will be discussed and analyzed. Students will develop an understanding of best practices of CSR in its entire breadth within an organization as well as delve into economic structures designed to foster more responsibility and accountability.

Prerequisites: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-420 The Built Environment and Sustainability

(3 cr.)

This course addresses the impacts of the human-built environment on natural systems and opportunities available to mitigate them through thoughtful planning, design, and implementation techniques to provide desirable, affordable, and sustainable living and working spaces. Topics focus on providing critical infrastructure for economic development, housing, transportation, and utilities while protecting and enhancing environmental assets through effective site and building design, public input, and use of regulatory tools. Additional attention is given to the maintenance of community character and the economic and social interdependence of rural, exurban, suburban, and urban areas.

Prerequisites: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-435 International Development and Sustainability

(3 cr.)

Repeatable for Credit: No

This course examines the international sustainability concerns. It explores interrelationships of sustainable management practices with population growth, health, food security, poverty, inequality, urbanization, international trade, technology and environmental change at local, regional, and global levels. Contemporary issues and alternatives will be explored to identify sustainable management practices that can lead to strong profitability, healthy environments, and vibrant communities.

Prerequisite: take SMGT-235. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-460 Environment and Society

(3 cr.)

Repeatable for Credit: No

Introduce the fundamentals of human-environmental interaction; a grasp of how these interactions create problems; and how the elements of social, technological, and personal choices combine to overcome them.

Prerequisites: take SMGT-115. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-495 Sustainable Management Capstone

(3 cr.)

Repeatable for Credit: No

Application and study of sustainable management through the solution of an industry-based project. Implementation of a triple-bottom line solution to industrial or community-based problems will be emphasized.

Technology and Science Education, B.S.

Go to [program website](#)

Introduction

UW-Stout is the only university or college in the state of Wisconsin offering a Bachelor of Science degree combining Technology and Science Education, offering students a unique opportunity. Students will participate in a collaborative, interdisciplinary degree program that prepares them as teachers in the overlapping fields of science and technology. Coursework in the program leads to a dual teaching certification in technology education with a major or minor certification in biology, chemistry, or physics. To fulfill the requirements of the program, students will complete technology, science, and education courses. Students will also complete required pedagogical courses specifically in technology and science education. Pre-student teaching experiences in both middle and high school classrooms as well as a semester-long student teaching experience will be required.

General Requirements Bachelor of Science Degree

Total for graduation	138-147 credits
General Education	40 credits
Major Requirements	80 credits
Certification	18-28 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (11 credits)

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

- XXX-XXX Physical Science course with lab (4 cr.)

Arts and Humanities * (6 credits)

- LIT-XXX Any Literature (3 cr.)
- XXX-XXX Any creative or performing arts (1-3 cr.)

Additional Course:

Remaining course must be from areas including art history, creative arts, foreign language and culture, history, music appreciation, performing arts or philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences * (6 credits)

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

Additional Course:

Remaining course must be from one or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Note(s):

**Either HIST-210 Modern World History must be taken under Arts and Humanities or ANTH-220 Cultural Anthropology must be taken under Social and Behavior Sciences.*

Cross-disciplinary Issues (3 credits)

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

Social Responsibility and Ethical Reasoning (3 credits)

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

Selective (2 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Requirements (80 credits)

Professional Education (40 credits)

Grade of "C" or better required for all courses.

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

STMED-160 Introduction to Technology and Science Education

(3 cr.)

Repeatable for Credit: No

Survey of technology and science teaching, including teachers' responsibilities, curriculum, literature, current issues and organizations associated with the profession and teaching within K- 12 schools.

STMED-260 Curriculum Methods & Assessment for Science & Technology

(3 cr.)

Repeatable for Credit: No

Development of rationales, goals, content outlines, outcomes, objectives, activities, and assessment items.

Prerequisite: take STMED-101 or STMED-160

STMED-360 Pre-Student Teaching in Science Technology and Math Education

(1 cr.)

Repeatable for Credit: No

Observing, analyzing, experiencing, and reflecting on teaching in public school settings for STMED pre-service teachers.

Department Consent

Prerequisites: Take STMED-101 or STMED-160, Benchmark 1 must be complete & background check is required.

STMED-390 Laboratory and Classroom Management in Science and Technology

(3 cr.)

Repeatable for Credit: No

Laboratory and classroom management strategies, conflict resolution, syllabi, paperwork, grading, communication, managing facilities and equipment, purchasing, maintenance, storage, lab and material safety, safety equipment, liability, and negligence.

Prerequisite: Benchmark I Completed

STMED-460 Teaching Methods for Science and Technology Education

(3 cr.)

Repeatable for Credit: No

Development and implementation of lessons, demonstrations, learning activities, and formative assessments.

Prerequisites: Benchmark I completion and STMED-260

TECED-340 Middle School Technology Education

(2 cr.)

Repeatable for Credit: No

Reviews trends and activities in the technology education movement. Teach middle school offerings.

TECED-409 Student Teaching in Technology Education

(4-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Prerequisite: Benchmark II completion

The Designed World (40 credits)

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ETECH-110 Materials and Manufacturing Processes

(3 cr.)

Repeatable for Credit: No

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

ETECH-202 Welding and Casting Processes

(3 cr.)

Repeatable for Credit: No

Lab intensive class utilizing various processes and parameters in the welding and foundry areas.

Prerequisite: take ETECH-110

ETECH-203 Machining Metal Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development.

Prerequisite: take ETECH-110

ETECH-204 Polymer Processes

(3 cr.)

Repeatable for Credit: No

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products.

Prerequisite: take ETECH-110

ETECH-371 Mechatronics

(3 cr.)

Repeatable for Credit: No

Synergetic application of mechanical, electrical, and computer engineering as well as math and physics to create sophisticated electromechanical systems. Development of mechatronic systems to find an optimal balance between the mechanical structure,

sensor and actuator implementation, automatic digital information processing, and overall control.
Prerequisite: take ET 204

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

ET-422 Research and Development

(3 cr.)

Repeatable for Credit: No

Research and development procedures applied to specific industrial material and processing problems.

Prerequisites: take ETECH 205

Technical Selectives (5 credits)

See adviser for an approved course list.

Science Courses (18 credit minimum)

Choose at least one major or one minor science certification from the list below:

Biology Major Certification (28 credits)

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

Selectives:

Choose 13 additional credits of approved biology selectives above the introductory level.

Chemistry Major Certification (28 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

Selectives:

Choose 11 additional credits of approved chemistry selectives above the introductory level.

Physics Major Certification (28 credits)

PHYS-151 Astronomy

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Scientific method of observing, measuring, and theorizing applied to the solar system, planets, stars, galaxies and the universe.

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

ET-260 Electrical Circuits

(3 cr.)

Repeatable for Credit: No

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take ET 204, MATH 153 and either PHYS 242 or PHYS 282

Selectives:

Choose 12 additional credits of approved physics selectives above the introductory level.

Biology Minor Certification (18 credits)

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

Selectives:

Choose 9 additional credits of approved biology selectives above the introductory level.

Chemistry Minor Certification (18 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

Selectives:

Choose 8 additional credits of approved chemistry selectives above the introductory level.

Physics Minor Certification (18 credits)

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

Selectives:

Choose 8 additional credits of approved physics selectives above the introductory level.

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/current/ugbmi.cfm.

- Pass one of the following skills tests: PPST, CORE, ACT, SAT or GRE. Test scores and test completion dates must meet required specifications as detailed on the SOE web page listed above
- Pass the required teacher background check
- Earn a grade of at least 2.00 (C) in ENGL 101 or ENGL 102 or ENGL 111 and ENGL 112
- Earn a grade of at least 2.00 (C) in COMST 100
- Earn a minimum grade of 2.00 (C) in STMED-160 Introduction to Technology and Science Education
- Complete EDUC-326 Foundations of Education.
- Satisfactorily complete Benchmark I Review

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/current/ugbmii.cfm.

- Complete Application for Student Teaching form
- Maintain a 2.75 grade point average
- Pass Content Knowledge Exam (*Praxis II*)
- Receive clearance through an updated background check
- Complete a satisfactory tuberculosis (*TB*) test
- Receive satisfactory portfolio assessment by faculty
- Receive satisfactory rating on Benchmark II Student Interview
- Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/current/ugbmiii.cfm.

- Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- Complete all program coursework
- Meet all program-specific requirements
- Student teach at two levels: Middle School and High School.
- Receive a satisfactory student teaching assessment

Technology Education, B.S.

Go to [program website](#)

Technology Education, B.S.: [4-year sequence](#)

Introduction

Technology Education is a Bachelor of Science degree program consisting of general, professional and technical course work that leads to teaching certification in all 50 states. Students who complete the B.S. in Technology Education may be eligible for credits relative to Project Lead the Way, a K-12 pre-engineering teaching initiative. Although the program is designed to lead to an education degree, graduates have also found challenging career opportunities in fields related to communication, construction, manufacturing and transportation. More than 30 credits of technical requirements provide students with hands-on experiences using computers, robots, electronics, and more conventional equipment used in processing materials, transportation, construction and processing information. Course work is enriched by involvement with professional organizations and professional activities.

The program is also offered with a distance option for geographically-bound students seeking Career and Technical Education certification.

General Requirements Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	80 credits

A minimum of 120 credits and a 2.75 GPA are required for graduation.

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education (40 credits)

Communication Skills (9 credits)

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Remaining selectives must be any STAT and CHEM or PHYS; one lab is required.

MATH-121 Introductory College Mathematics II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two-dimensional analytic geometry.

Prerequisite: Math Placement Level 3 or completion of MATH-120

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Arts and Humanities* (6 credits)

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Note(s):

* Either HIST-210 Modern World History must be taken under Arts and Humanities or ANTH-220 Cultural Anthropology must be taken under Social and Behavioral Sciences.

Social and Behavioral Sciences * (6 credits)

Remaining course must be from areas of anthropology, economics, geography, political science or sociology.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (4 credits)

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

Social Responsibility and Ethical Reasoning (3 credits)

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

Selectives (2 credits)

Courses/credits may be selected from any General Education category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies - On Campus (80 credits)

Professional Education (41 credits)

Grade of "C" or better required for all courses. Courses with the TECED and STMED prefix can only be repeated once.

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

EDUC-326 Foundations of Education

(2 cr.)

Repeatable for Credit: No

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

STMED-160 Introduction to Technology and Science Education

(3 cr.)

Repeatable for Credit: No

Survey of technology and science teaching, including teachers' responsibilities, curriculum, literature, current issues and organizations associated with the profession and teaching within K- 12 schools.

STMED-260 Curriculum Methods & Assessment for Science & Technology

(3 cr.)

Repeatable for Credit: No

Development of rationales, goals, content outlines, outcomes, objectives, activities, and assessment items.

Prerequisite: take STMED-101 or STMED-160

STMED-360 Pre-Student Teaching in Science Technology and Math Education

(1 cr.)

Repeatable for Credit: No

Observing, analyzing, experiencing, and reflecting on teaching in public school settings for STMED pre-service teachers.

Department Consent

Prerequisites: Take STMED-101 or STMED-160, Benchmark 1 must be complete & background check is required.

STMED-390 Laboratory and Classroom Management in Science and Technology

(3 cr.)

Repeatable for Credit: No

Laboratory and classroom management strategies, conflict resolution, syllabi, paperwork, grading, communication, managing facilities and equipment, purchasing, maintenance, storage, lab and material safety, safety equipment, liability, and negligence.

Prerequisite: Benchmark I Completed

STMED-460 Teaching Methods for Science and Technology Education

(3 cr.)

Repeatable for Credit: No

Development and implementation of lessons, demonstrations, learning activities, and formative assessments.

Prerequisites: Benchmark I completion and STMED-260

TECED-340 Middle School Technology Education

(2 cr.)

Repeatable for Credit: No

Reviews trends and activities in the technology education movement. Teach middle school offerings.

TECED-409 Student Teaching in Technology Education

(4-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Prerequisite: Benchmark II completion

The Designed World (40 credits)

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ETECH-110 Materials and Manufacturing Processes

(3 cr.)

Repeatable for Credit: No

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

ETECH-202 Welding and Casting Processes

(3 cr.)

Repeatable for Credit: No

Lab intensive class utilizing various processes and parameters in the welding and foundry areas.

Prerequisite: take ETECH-110

ETECH-203 Machining Metal Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development.

Prerequisite: take ETECH-110

ETECH-204 Polymer Processes

(3 cr.)

Repeatable for Credit: No

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products.

Prerequisite: take ETECH-110

ETECH-371 Mechatronics

(3 cr.)

Repeatable for Credit: No

Synergetic application of mechanical, electrical, and computer engineering as well as math and physics to create sophisticated electromechanical systems. Development of mechatronic systems to find an optimal balance between the mechanical structure, sensor and actuator implementation, automatic digital information processing, and overall control.

Prerequisite: take ET 204

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

ET-422 Research and Development

(3 cr.)

Repeatable for Credit: No

Research and development procedures applied to specific industrial material and processing problems.

Prerequisites: take ETECH 205

TECED-325 Technology for Elementary School Children

(2 cr.)

Repeatable for Credit: No

Development, philosophy, objectives and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics and drawing.

TECED-206 Secondary Technology Teaching Practicum

(3 cr.)

Repeatable for Credit: No

Identification and scaffolding of age appropriate energy, transportation, construction, manufacturing, and communication systems content and learning activity resources; preparing for activity implementation in a laboratory setting; authentic assessment of student learning; and reflection of teaching strategies implemented in a laboratory environment.

take STMED 160

Technical Selectives (6 credits)

All Technology Education students are required to meet with their adviser to plan their Technical Selectives. The purpose of this requirement is to provide the student with an opportunity to create more depth of understanding and skill within technical areas that are likely to be part of their teaching responsibilities at the secondary level. Some courses or sequences of courses may provide a student the opportunity to seek certifications by outside accrediting bodies such as Project Lead the Way. Technical college transfers need to meet with an advisor to gain approval of technical transfer courses.

Major Studies - Distance Delivery Option (80 credits)

Professional Education (39 credits)

Grade of "C" or better required for all courses. Courses with the TECED and STMED prefix can only be repeated once.

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

CTE-302 Principles of Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Importance of career and technical education (workforce education) to American society and the individual. Actively apply principles

into practice. Formulate a philosophy of workforce education based on personally held principles and demonstrated practices.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

CTE-438 Course Construction in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Focus on curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates' CTE program area. Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

CTE-405 Methods of Teaching Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching career and technical education.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

No prerequisite for CTET students who enroll for 2 credits.

CTE-440 Instructional Evaluation in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to instructional evaluation for career and technical educators. Prepares educators to design and implement performance-based assessment in diverse formats and settings that evidence student learning.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for

CTET students who enroll for 2 credits.

EDUC-415 Classroom Management

(2-3 cr.)

Repeatable for Credit: No

Technique and theory for motivating PreK-grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences.

RDGED-382 Content Area Reading

(2 cr.)

Repeatable for Credit: No

Theoretical foundations, policy and issues impacting content area reading. Evidence based strategies for assessing and building background knowledge, developing vocabulary and comprehension, integrating writing, selecting appropriate content area texts and materials, assessing students' reading ability, and addressing needs of diverse students and struggling readers.

Prerequisites: Completion of Benchmark I and EDUC-303

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

CTE-360 Coordination of Work-based Learning (WBL) Programs

(3 cr.)

Repeatable for Credit: No

Philosophy, planning, initiation, organization, coordination, evaluation, and teaching techniques of Cooperative Career and Technical Education (C-CTE) programs. Special emphasis on roles, responsibilities and duties of the cooperative teacher-coordinator.

TECED-409 Student Teaching in Technology Education

(4-16 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

Prerequisite: Benchmark II completion

The Designed World (35 credits)

AEC-131 Architectural Graphics

(3 cr.)

Repeatable for Credit: No

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

ETECH-112 Engineering Graphics Fundamentals

(3 cr.)

Repeatable for Credit: No

Fundamentals of engineering graphics: principles, standards and graphic language necessary to communicate technical information on industrial drawings. Includes appropriate software, visualization, geometric concepts and dimensioning basics.

AEC-171 Light Construction Methods and Materials

(3 cr.)

Repeatable for Credit: No

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ETECH-110 Materials and Manufacturing Processes

(3 cr.)

Repeatable for Credit: No

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

ETECH-202 Welding and Casting Processes

(3 cr.)

Repeatable for Credit: No

Lab intensive class utilizing various processes and parameters in the welding and foundry areas.

Prerequisite: take ETECH-110

ETECH-203 Machining Metal Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development.

Prerequisite: take ETECH-110

ETECH-204 Polymer Processes

(3 cr.)

Repeatable for Credit: No

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products.

Prerequisite: take ETECH-110

ETECH-371 Mechatronics

(3 cr.)

Repeatable for Credit: No

Synergetic application of mechanical, electrical, and computer engineering as well as math and physics to create sophisticated electromechanical systems. Development of mechatronic systems to find an optimal balance between the mechanical structure, sensor and actuator implementation, automatic digital information processing, and overall control.

Prerequisite: take ET 204

ETECH-205 Design for Industry

(3 cr.)

Repeatable for Credit: No

Industrial Research and Development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

ET-422 Research and Development

(3 cr.)

Repeatable for Credit: No

Research and development procedures applied to specific industrial material and processing problems.

Prerequisites: take ETECH 205

TECED-206 Secondary Technology Teaching Practicum

(3 cr.)

Repeatable for Credit: No

Identification and scaffolding of age appropriate energy, transportation, construction, manufacturing, and communication systems content and learning activity resources; preparing for activity implementation in a laboratory setting; authentic assessment of student learning; and reflection of teaching strategies implemented in a laboratory environment.

take STMED 160

TECED-325 Technology for Elementary School Children

(2 cr.)

Repeatable for Credit: No

Development, philosophy, objectives and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics and drawing.

Technical Selectives (6 credits)

All Technology Education students are required to meet with their adviser to plan their Technical Selectives. The purpose of this requirement is to provide the student with an opportunity to create more depth of understanding and skill within technical areas that are likely to be part of their teaching responsibilities at the secondary level. Some courses or sequences of courses may provide a student the opportunity to seek certifications by outside accrediting bodies such as Project Lead the Way. Technical college transfers need to meet with an advisor to gain approval of technical transfer courses.

Vocational Certification

A student who wishes to become certifiable to teach an advanced level occupational skills course in Wisconsin must complete this degree program, a course in Principles of Career and Technical Education, and a course in Organization and Administration of Cooperative Education Programs. The student must also have a minimum of 2,000 hours of related work experience.

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/current/ugbmi.cfm.

- Pass one of the following skills tests: PPST, CORE, ACT, SAT or GRE. Test scores and test completion dates must meet required specifications as detailed on the SOE web page listed above
- Pass the required teacher background check
- Earn a grade of at least 2.00 (C) in ENGL 101 or ENGL 102 or ENGL 111 and ENGL 112
- Earn a grade of at least 2.00 (C) in COMST 100
- Earn a minimum grade of 2.00 (C) in STMED 160 Introduction to Technology and Science Education
- Complete EDUC 326 Foundations of Education.
- Satisfactorily complete Benchmark I Review

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/current/ugbmii.cfm.

- Complete Application for Student Teaching form
- Maintain a 2.75 grade point average
- Pass Content Knowledge Exam (*Praxis II*)
- Receive clearance through an updated background check
- Complete a satisfactory tuberculosis (*TB*) test
- Receive satisfactory portfolio assessment by faculty
- Receive satisfactory rating on Benchmark II Student Interview
- Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/current/ugbmiii.cfm.

- Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- Complete all program coursework
- Meet all program-specific requirements
- Student teach at two levels: Middle School and High School.
- Receive a satisfactory student teaching assessment

Video Production, B.S.

Go to [program website](#)

Video Production, B.S.: Video Production, B.S. Sequence

Introduction

The Video Production major provides students with skills necessary to pursue a career in rapidly-expanding fields related to the creation and presentation of video/media for non-broadcast, online/multi-channel media distribution such as social media, training and education, and digital display content. The Video Production major will prepare students to apply technical knowledge and skills to the creation of finished still and video/media products, under the guidance of producers and directors. The program will emphasize creative and critical thinking skills, principles of visual literacy, technical processes of video/media technologies, and the planning and management of video/media production.

General Requirements Bachelor of Science Degree

Total for graduation
General Education

120 credits
40 credits

Major Studies
Electives

66 credits
14 credits

Program Requirements

Racial and Ethnic Studies (6 credits*)

Three credits must be selected from RES-A.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

Global Perspective (6 credits*)

Complete a program of university-approved work or study abroad, or 6 credits of global perspective approved courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

*Students can select courses that count for more than one requirement within General Education (GE), Racial and Ethnic Studies (RES), and Global Perspectives (GLP).

General Education Requirements (40 credits)

Communication Skills (9 credits)

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence. Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

Analytical Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved cross-disciplinary issues courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Major Studies (66 credits)

Supplemental Professional (24 credits)

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BUMKG-370 Integrated Marketing Communications

(3 cr.)

Repeatable for Credit: No

Fundamentals of integrated marketing communications; integration of elements of the promotional mix, including advertising, sales promotions, public relations, online marketing, social media and other modern methods of marketing communication.

Prerequisites: take BUMKG-330

DES-176 Introduction to Digital Narrative

(3 cr.)

Repeatable for Credit: No

Visual storytelling and time-based foundations (4D) for animation, digital cinema, comics, game design, transmedia design and other time-based forms. Emphasis on ideation through writing, storyboarding and concept illustration. Introduction to the field of entertainment design.

GCOM-151 Graphics Software Tools

(3 cr.)

Repeatable for Credit: No

Graphics software tools and processes for production/development of print and non-print graphics projects. Software features and application, image capture/creation, page layout, and web development for multiple media workflows.

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

MUSIC-350 Digital Sound Studio

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Study and application of audio-visual synergy in animations, films, television, games and other time-based multimedia forms.

Professional/Technical (42 credits)

DES-375 Digital Cinema Studio

(3 cr.)

Repeatable for Credit: Yes

Techniques, topics and projects for digital cinema. Emphasis on creative direction, aesthetics, content and narrative development. Advanced students work individually and in teams to produce and critically examine self-directed projects. Advanced topics and projects rotate each semester.

Prerequisites: take DES-176, DES-220 and ART-100, each with a grade of C or better

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

PHOTO-310 Introduction to Photographic Lighting

(3 cr.)

Repeatable for Credit: No

Introduction to the essential concepts of lighting for still and moving image photography. Emphasis is on the application and control of natural and artificial light in studio and location photography. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisite: take PHOTO 130

PHOTO-330 Video Production

(3 cr.)

Repeatable for Credit: No

Introduction to essential concepts and techniques of video production. Emphasis is placed on preproduction and preparation for production, writing proposals and treatments, story-boarding and developing a workflow appropriate to the project. Students develop camera operation, audio, lighting, directing, producing and editing skills. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO 130 and a DSLR camera with full manual controls in still and video capture modes is required.

PHOTO-375 Product Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products. Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required. A special course fee applies.

Prerequisite: take PHOTO 310 and PHOTO 330 . A DSLR camera with full manual control in still and video capture modes is required.

PHOTO-411 Photojournalism and Documentary Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of photojournalism and documentary photography trends and practices. The importance of still and moving images as conveyors of information and influence on public opinion is emphasized. Ethical and moral considerations, freedom of the press and the public's right to know are stressed. A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products. Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-415 Advertising Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image advertising photography trends and practices. The

relationship between marketing, design and photography in communicating with target audiences through cross-channel media are stressed. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Prerequisite: take PHOTO-375

PHOTO-425 Corporate Communications and Public Relations Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of corporate communications and public relations, still and moving image photography trends and practices. The relationship between marketing, corporate communications and public relations photography in influencing target audience opinion through cross-channel media are stressed. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

VID-200 Video Production Technologies

(3 cr.)

Repeatable for Credit: No

Essential concepts and techniques of video production technologies and their use. Students develop competency and foundational knowledge in the areas of camera systems, dynamic range and chroma sampling capabilities, lenses/optics, video acquisition formats/codecs/compression, video signal analysis, fundamental internal and external audio recording and mixing, video distribution platforms and file preparation.

Prerequisites: take PHOTO 130

VID-310 Commercial Motion Graphics

(3 cr.)

Essential concepts and techniques in developing motion graphics for video applications.

Prerequisites: take GCOM 151 and PHOTO 330

VID-331 Advanced Video Production

(3 cr.)

Repeatable for Credit: No

Advanced concepts and techniques of video production. Emphasis is placed on guided practice of advanced applied/commercial student projects toward developing professional skills and proficiencies in video production.

Prerequisites: take VID 310

VID-420 Virtual and Augmented Reality Video Applications

(3 cr.)

Repeatable for Credit: No

Advanced concepts and techniques of video production. Primary emphasis is placed on virtual reality (VR) photo/video capture (360 degree), production and post-production techniques. Secondary emphasis is placed on video production and post-production techniques for integrating video and/or motion graphics into augmented reality (AR) applications.

Prerequisites: take VID 331

VID-430 Visual Effects and Compositing

(3 cr.)

Repeatable for Credit: No

Intermediate concepts and techniques of visual effects (VFX) and compositing for video production. Primary emphasis is placed on moving image retouching, digital (photographic) matte painting, rotoscoping, motion tracking, and compositing of layer or node-based content. Secondary emphasis is placed on the creation and composite of environmental natural elements and effects.

Prerequisites: take VID 331

VID-440 Video Production Capstone

(3 cr.)

Repeatable for Credit: No

Apply collaborative solution-oriented analysis to client projects. Demonstrate project management, leadership, supervision and teamwork strategies. Deploy technical concepts, techniques and procedures fundamental for the execution and delivery of a professional applied/commercial video project.

Prerequisites: take VID 430

Electives (14 credits)

Electives can come from any additional university courses or accepted transfer credits. Consult with your advisor regarding recommended minors or certificates.

Minor

Introduction

Minors are defined as either "studies in the discipline" or as "teaching." Teaching minors are those approved by the State Department of Public Instruction for licensure. Requirements for teaching minors include an education major, passing score on the content exam for the minor, portfolio evidence of competence in the Wisconsin Teacher standards and the minor's content, and student teaching experience in the minor field. Contact the School of Education for information regarding teaching minors. Approval forms and minor program plans are available from the School of Education office and the department offices offering the minor.

Applied Foreign Language Minor

Department of Speech Communication, Foreign Language, Theatre and Music

Before declaring the minor, student must have approval of an individual course plan. The applied project requires signatures of both major and minor program advisers.

Program Requirements (26 credits)

- XXX-XXX Elementary Foreign Language A (8 cr.)
- XXX-XXX Intermediate Foreign Language A (8 cr.)
- XXX-XXX Elementary Foreign Language B (8 cr.)

TRDIS-350 Applied Foreign Language Project

(2 cr.)

Repeatable for Credit: No

Application of foreign language to the context of a career related to the student's major program. Vocabulary, written communications, and oral interaction in the primary language of the Applied Foreign Language minor.

Prerequisite: 16 credits in a foreign language

Applied Peace Studies Minor

Social Science Department

Program Requirements (21 credits)

Required Courses (9 credits)

PAX-201 Introduction to Applied Peace Studies

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

A general introduction to peace studies as an area of inquiry. The nature and dynamics of violent conflict, the conditions and practices of peace in its many forms, emphasis on peace building and nonviolent conflict transformation.

PAX-271 Conflict Resolution and Analysis

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

An overview of the interdisciplinary field of conflict resolution and analysis in terms of theory, research, and practice. Diverse strategies for conflict mediation are explored. Social, environmental and economic justice are studied as the consequences of nonviolent conflict resolution strategies.

PAX-401 Applied Peace Studies Seminar

(3 cr.)

Repeatable for Credit: No

An analysis of beliefs and practices of peace. Students work to formulate their own ideas and positions and to develop critical arguments on peace theories by integrating the insights and arguments of a range of academic and popular sources on the subject. Culminates in a major peace-related research project.

Electives (12 credits)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

ANTH-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

ANTH-293 Environmental Justice

(3 cr.)

Racial & Ethnic Studies Category A, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Environmental racism; socio-economic inequality and exposure to environmental hazards; race, class, and environmental suffering; grassroots activism and opposition to environmental inequality and racism, particularly among U.S. minority groups; incorporation of environmental justice principles into public policy and corporate decision-making.

ANTH-356 Gender in Cross-Cultural Perspective

(3 cr.)

Global Perspective, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Gender roles in cross-cultural perspective. Anthropological theories of gender and inequality; social responsibility balancing cultural relativism and equity. Variation in domestic, social, economic, political, and religious roles; historical development of and contemporary changes in gender roles; global influences and processes of change and improvement in the lives of modern women.

ECON-350 Environmental and Natural Resource Economics

(3 cr.)

Repeatable for Credit: No

Principles underlying use of natural resources including demand and supply; efficiency; cost effectiveness and benefit-cost analysis; sustainability; optimal pricing; and management of renewable and non-renewable resources. Principles are applied to the examination of pollution control, preservation versus development, recycling, and other environmental and natural resource issues and policies.

Prerequisites: take either ECON-201 or ECON-210

ECON-360 Strategic Decision Making and Game Theory

(3 cr.)

Analytic Reasoning and Natural Science, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Strategic behavior and game theoretic approaches for problem solving and social analysis with particular application to economics, politics, and sociology as well as business and industry applications; mechanisms for sustainable conflict resolution, ethical and socially responsible decision making, and optimal individual and group choice.

ECON-425 Economic Development

(3 cr.)

Repeatable for Credit: No

Analysis of the economies of less developed countries in an institutional and international framework to understand the social and economic realities of people living in these regions. Evaluation of economic policies and their impact on development.

Prerequisite: take ECON 215

ECON-480 International Economics

(3 cr.)

Repeatable for Credit: No

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics related to trade models, tariffs, exchange rates and balance of payments.

Prerequisite: take ECON-210

EDUC-330 Multiculturalism: Dialogue and Field Experience

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspectives, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Intensive examination of multiculturalism in the U.S. and global schools and communities: the educational and cultural needs of diverse social groups, discussion of hegemony, cultural, racial, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Field experience. Strategies for educational and socioeconomic equity.

Prerequisite: Background check required.

GEOG-104 World Geography

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

An introduction to how the discipline of geography makes sense of the world, its diverse people, places, and regions. Emphasis is on the interaction between culture and landscape and how those interactions create unique places.

HIST-311 Women and War: A Global Perspective in the Modern Era

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines the lives and roles of women in conflicts from 1789 to the present during wars in Europe, Africa, Asia, and Latin America with minor focus on the United States.

HIST-330 History of World War II

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Causes, conduct and effects of World War II.

HIST-335 World War II: An Ethnic and Global History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

Examine World War II through exploration of ethnicity and race both in the United States and abroad.

Must be Sophomore level or higher

HIST-350 History of the Vietnam War

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

American role in the Vietnam War, particularly goals, objectives and dilemmas faced by American policymakers; roles and contributions of American men and women in the military and in civilian society; development and impact of the anti-war movement; and long-term consequences of the war on American culture and society.

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

PAX-251 Special Topics in Peace Studies

(1-3 cr.)

Repeatable for Credit: Yes

Topics of current or historical importance in the understanding of peace and conflict. Designated topics announced prior to the start of the course. May be repeated for elective credit, but not more than twice for a total of 6 credits.

PHIL-205 Philosophy of Religion

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Principal philosophical problems in the various dimensions of religious experience and belief.

PHIL-215 Eastern Philosophy

(3 cr.)

Global Perspective, Arts and Humanities - Philosophy

Repeatable for Credit: No

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism.

PHIL-220 Multicultural Philosophy

(3 cr.)

Racial and Ethnic Studies - Category A, Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Philosophical perspectives from historically underrepresented racial/ethnic groups and other cultural identities. Multiculturalism and its impact on the study of philosophy.

POLS-260 Problems of U.S. Foreign Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Analysis of U.S. foreign policy objectives and decision making from both U.S. and foreign perspectives. Historical and contemporary problems of national defense, relationships with different regions and nations, economic and resource policies, presidential/Congressional authority, intelligence operations, and public opinion.

POLS-340 International Relations

(3 cr.)

Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems.

SOC-225 Social Problems

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological analysis of current social problems in the U.S. and the world.

SOC-375 Sociology Of Minority Groups

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

SOC-400 Sociology of Altruism

(3 cr.)

Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological perspective of altruism explored in the context of volunteer public service, and biographies of exemplary public service participants.

Department Consent

Prerequisite: Acceptance into University Honors Program

Art History Minor

Department of Art and Art History

Program Requirements (21 credits)

Required Courses (6 credits)

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

Choose 3 credits from each of these categories:

Ancient to Baroque Distribution (3 credits)

ARTH-326 Greek and Roman Art

(3 cr.)

Repeatable for Credit: No

The arts of ancient Greece and Rome.

ARTH-327 Medieval Art

(3 cr.)

Repeatable for Credit: No

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

ARTH-328 Italian Renaissance Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art and architecture in Italy from the fourteenth through the sixteenth centuries.

ARTH-329 Northern Renaissance Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art in Northern Europe during the late fourteenth, fifteenth and sixteenth centuries.

ARTH-330 Baroque Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art and architecture in Europe and the colonial New World in the seventeenth and early eighteenth centuries.

ARTH-256 Special Topics in Art History: Art in Italy

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation (Not listed)

Repeatable for Credit: No

Survey of the art and architecture of Italy, from Antiquity through the 17th Century, with travel to Italy.

Modern Distribution (3 credits)

ARTH-331 Art and Controversy

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Exploration of controversial or provocative works of art that push the boundaries of artistic expression. Consideration of social and historical contexts of provocative imagery. Understanding the delicate balance between differing individual, social, and cultural mores and an artist's right to freedom of expression.

ARTH-335 19th Century Art In Europe

(3 cr.)

Repeatable for Credit: No

History of European art from about 1800 to 1900.

ARTH-336 Modern Art

(3 cr.)

Repeatable for Credit: No

The main currents and developments in art from Monet and Cezanne to 1950.

ARTH-337 Art Since 1950

(3 cr.)

Repeatable for Credit: No

Developments in painting and sculpture in Europe and America since 1950.

Prerequisite: take ARTH-224 with a grade of C or better

ARTH-341 History of Film

(3 cr.)

Repeatable for Credit: No

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted filmmakers from around the world.

Diversity Distribution: Global/Ethnic/Non-Western/Gender Studies (3 credits)

ARTH-225 Introduction to Non-Western Art

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Cross cultural examination of the history of Non-Western art from a global perspective. Exploration of the arts of Asia, Africa, the Americas, Oceania, and the Islamic world. Exposure to diverse visual elements and humanistic concerns. Themes include: diversity, identity, religion, politics, representation of self and "the other", and Westernization.

ARTH-256 Special Topics in Art History: Art in Italy

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation (Not listed)

Repeatable for Credit: No

Survey of the art and architecture of Italy, from Antiquity through the 17th Century, with travel to Italy.

ARTH-325 Egyptian and Mesopotamian Art

(3 cr.)

Repeatable for Credit: No

The evolution of the arts and ancient Egypt and the Near East.

ARTH-332 Gender and Art

(3 cr.)

Repeatable for Credit: No

Exploration of social and cultural constructions of identity and sexuality from Prehistory to the Modern era. Analysis of the ways in which gender identities can be shaped by politics, religion, and culture, and how an artist's gender and/or sexual preferences affect visual imagery, from subject choices to market values.

ARTH-339 Japanese Art and Culture

(3 cr.)

Global Perspective

Repeatable for Credit: No

Thematic survey of the art and culture of Japan from pre-history to the present day. Recognition of major styles, appreciation of Eastern cultural ideals, familiarity with influences and borrowings from the West. Class discussions include religion (Shinto, Buddhism), art, culture (tea ceremonies, Kabuki Theater) and literature.

Design Distribution (3 credits)

ARTH-319 History of Design

(3 cr.)

Repeatable for Credit: No

Survey of the history of modern design since its origins in the late Renaissance.

Prerequisites: take ARTH-224 with a grade of C or better and ENGL-101/ENGL-111

ARTH-333 History of Interiors and Furnishings

(3 cr.)

Global Perspective

Repeatable for Credit: No

A survey of the history of interior design, furniture, and household objects since ancient Egypt.

ARTH-340 History of Interactive Media

(3 cr.)

Repeatable for Credit: No

Survey of historical developments leading to, and in the design of, video games, the Internet, and related media. Must be in a BFA major, Art Ed or GDD major

Selectives (3 credits)

Choose three additional credits from the categories listed above.

Biology Minor

Department of Biology

Program Requirements (20 credits)

Required Courses

BIO-136 College Molecular Cell Biology I

(5 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science and Science Education majors, and Biology minors.

Prerequisite(s): Must be ABMB or pre, APSC or pre, ENSC, SCIED major or instructor consent

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

Select one of the following:

BIO-101 Introductory Biology

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Introduction to the science of biology including life processes, cell biology, genetics, molecular biology, evolution, ecology, plant and animal diversity. Living systems are viewed from the sub-cellular to the community level, emphasizing the diversity, functioning, and interaction of whole organisms.

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

BIO-135 Organismal Biology

(4 cr.)

Repeatable for Credit: No

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills.

Must be APSCI, ENVSCI, SCIED, or PRE-HEALTH major

BIO-141 Plants and People

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary investigation into the global economic and cultural importance of plants, how aspects of plant biology have played historical roles in shaping societies around the world, and the roles of plants in solving future societal problems. A special course fee applies.

Selectives

Choose remaining credits from biology courses at the 200 level or higher to fulfill the 20 credit minimum. A minimum grade of "C" is required for all courses applied to the biology minor.

Biomedical Instrumentation Minor

Department of Engineering and Technology

Program Requirements (22 credits)

Required Courses

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

ETECH-310 Biomedical Instrumentation

(3 cr.)

Repeatable for Credit: No

Review of basic electronics; measurements of physical, chemical, biological, and physiological variables; safety, noise, isolation, grounding, and shielding in biomedical instrumentation; circulatory, nervous, respiratory systems and related instrumentation; introduction to clinical lab systems; introduction to medical imaging systems.

Prerequisite: take ET-204

ET-204 Electricity/Electronics Fundamentals

(3 cr.)

Repeatable for Credit: No

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Math Placement or MATH-120

ET-260 Electrical Circuits

(3 cr.)

Repeatable for Credit: No

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take ET 204, MATH 153 and either PHYS 242 or PHYS 282

ENGR-290 Circuits and Devices

(4 cr.)

Repeatable for Credit: No

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits.

Prerequisites: take MATH-154 and PHYS-282

CEE-205 Circuit Analysis and Design

(4 cr.)

Repeatable for Credit: No

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real resistors/capacitors/inductors, steady state/transient behavior of circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory.

Prerequisite: take MATH-154 or MATH-157

BIO-358 Introductory Pharmacology

(2 cr.)

Repeatable for Credit: No

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination.

Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system.

Prerequisites: take BIO-132, BIO-234 or CHEM-135

BIO-360 Introduction to Neuroscience

(3 cr.)

Repeatable for Credit: No

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisites: BIO-132 or BIO-234

BIO-362 Advanced Physiology

(3 cr.)

Repeatable for Credit: No

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisites: C or better in BIO-234

Selectives

Additional courses to complete 22 credits will be selected from a list provided by the adviser.

Business Administration Minor

Department of Business

Program Requirements (22 credits)

Required Courses (18 credits)

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BUACT-207 Introduction-Corporate and Managerial Accounting

(3 cr.)

Repeatable for Credit: No

Study of accounting for corporations, methods of raising capital, analysis of financial statements, introduction to management accounting, product cost accounting systems, profit planning, management performance measures, and capital budgeting.

Prerequisite: take BUACT-206

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

Selectives (4 credits)

Select 4 credits from the list supplied by the department.

Chemistry Minor

Department of Chemistry and Physics

Program Requirements (21 credits)

Required Courses (14 credits)

CHEM-135 College Chemistry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Fundamental principles and concepts of chemistry, including atomic and molecular structure, chemical reactions and stoichiometry, thermochemistry, gases and solutions. More rigorous approach and more extensive coverage than CHEM-115. Not recommended for students with no previous chemistry background. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH 120

CHEM-136 College Chemistry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Chemical kinetics, chemical and aqueous equilibria, thermodynamics, electrochemistry, and nuclear chemistry.

Prerequisites: take CHEM-135

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

Select one of the following:

CHEM-204 Organic Chemistry II Lecture

(3 cr.)

Repeatable for Credit: No

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

CHEM-321 Physical Chemistry

(4 cr.)

Repeatable for Credit: No

Foundations of thermodynamics and kinetics. Topics include laws of thermodynamics, states of matter and transformations, equilibrium, Gibbs free energy, prediction of spontaneous reactions, reaction rates, rate laws, and transition states.

Prerequisite(s): take CHEM 136 and MATH 153 or MATH 156

Selectives

Additional departmental offerings to complete 21 credits will be selected. A minimum grade of "C" (2.0) is required in all chemistry courses applied toward the chemistry minor.

Coaching Minor

Department of Physical Education

Program Requirements (24 credits)

Area I: Medical Emergencies (5 credits)

HLTH-350 Prevention and Care of Athletic Injuries

(3 cr.)

Repeatable for Credit: No

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

Prerequisites: take HWF-340 and BIO-234

HWF-340 Community CPR, Automatic External Defibrillation and First Aid

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

American Red Cross Certification - Adult, child and infant CPR, automated external defibrillator use, first aid; personal safety, accident prevention knowledge; sudden illness recognition; respond/administer emergency techniques; social responsibility, ethical reasoning, first aid and emergency situations. A special course fee applies.

Area II: Principles and Psycho-Social Foundations of Coaching (4 credits)

PE-352 Theory and Management of Coaching

(2 cr.)

Repeatable for Credit: No

Current management principles and practices applied to the profession of coaching.

PE-362 Psycho-Social Aspects of Athletics

(2 cr.)

Repeatable for Credit: No

Examination of the psychology of sport and human movement. Understanding motivation, individual differences and social influence.

Area III: Methods and Strategies of Coaching (2 credits)

PE-401 Coaching Gymnastics

(2 cr.)

Repeatable for Credit: No

Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program.

PE-460 Coaching Basketball

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-461 Coaching Football

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

- PE-465 Coaching Competitive Swimming (2 cr.)

PE-470 Coaching Baseball

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-471 Coaching Track and Field

(2 cr.)

Repeatable for Credit: No

Fundamentals and methods of teaching and coaching track and field, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

- PE-477 Coaching Tennis (2 cr.)

PE-478 Coaching and Officiating Volleyball

(2 cr.)

Repeatable for Credit: No

Skills and techniques of coaching and officiating competitive volleyball.

Instructor's Consent Required

Prerequisite: take PE-185

- PE-479 Coaching Wrestling (2 cr.)

PE-480 Coaching Youth Athletes

(2 cr.)

Repeatable for Credit: No

Coaching strategies for organized non-varsity youth sports programs--philosophy, psychology, physiology, pedagogy, prevention and care of injuries, and legalities.

PE-481 Coaching Hockey

(2 cr.)

Repeatable for Credit: No

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive hockey skills and strategies; organizing and administering hockey programs at all age levels.

PE-482 Coaching Softball

(2 cr.)

Repeatable for Credit: No

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive softball skills and strategies; organizing and administering softball programs at all age levels.

Must be Sophomore level or higher

PE-483 Coaching Soccer

(2 cr.)

Repeatable for Credit: No

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive soccer skills and strategies; organizing and administering soccer programs at all age levels.

Must be Sophomore level or higher

Area IV: Kinesiological and Biomechanical Foundations of Coaching (7 credits)

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

HWF-225 Structural Kinesiology

(3 cr.)

Repeatable for Credit: No

Musculoskeletal anatomy as it applies to human movement as well as basic kinesiological concepts. Muscle and bone identification as well as joint function and structure.

Area V: Physiological Foundations of Coaching (3 credits)

HLTH-365 Physiology of Exercise

(3 cr.)

Repeatable for Credit: No

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: take BIO-132

Area VI: Practicum in Coaching

PE-490 Practicum in Coaching

(1-3 cr.)

Repeatable for Credit: No

On- or off-campus work and study in athletic coaching with competitive teams.

Department Consent

Area VII: Selectives

Select additional courses from the list supplied by the department for the 24-credit minor.

Cognitive Neuroscience Minor

Department of Psychology

Program Requirements (20 credits)

Required Courses

CNS-200 Introduction to Cognitive Neuroscience

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science, Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Cognitive and neural processes that support higher mental functions and methods by which inferences about the brain bases of cognition are made.

CNS-201 Introduction to Cognitive Neuroscience Lab

(1 cr.)

Analytic Reasoning and Natural Sciences - Natural Sciences with Lab

Repeatable for Credit: No

Cognitive neuroscience experimental techniques including behavioral and electrophysiological methods of research. Measurement, analysis and presentation of laboratory data on cognitive neuroscience, such as neuronal properties, sensation, memory, perception, learning and attention.

Corequisite: CNS-200

BIO-360 Introduction to Neuroscience

(3 cr.)

Repeatable for Credit: No

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisites: BIO-132 or BIO-234

PSYC-391 Applied Psychophysiological Methods

(3 cr.)

Repeatable for Credit: No

Theory, methods, laboratory procedures, and applications of physiological responses to psychological stimuli.

Prerequisite: take BIO-132

CNS-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

- CNS-XXX Special Topics in Cognitive Neuroscience (1-4 cr.)

Selectives

PSYC-442 Cognitive Processes

(3 cr.)

Repeatable for Credit: No

Cognitive theories of attention, memory, language, reasoning and problem solving with applications to fields of education, vocational rehabilitation, gerontology, forensic, clinical and counseling psychology.

Prerequisite: Take PSYC-110

PSYC-432 Perception

(3 cr.)

Repeatable for Credit: No

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

Electives

Select additional courses to complete 20 credits from the approved list supplied by the advisor. Psychology Majors: No more than 50 percent of credits in the minor can be in PSYC courses.

Communication Studies Minor

Department of Communication Studies, Global Languages, and Performing Arts

Program Requirements (20 credits)

Core (9 credits)

COMST-210 Interpersonal Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical and applied approaches to communication in interpersonal relationships. Communication variables and competencies for social interaction in personal and professional contexts.

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

COMST-350 Nonverbal Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theories and research involved in understanding and applying nonverbal skills in personal, professional and technologically-enhanced environments.

Presentation Skills (5-6 credits)

Choose from two of the following:

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

COMST-200 Persuasive Speaking

(3 cr.)

Communication Skills

Repeatable for Credit: No

Advanced techniques of speaking; develop persuasion skills in personal, professional and public contexts.

Prerequisite: take COMST-100

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

Electives (5-6 credits)

Choose from two of the following:

COMST-200 Persuasive Speaking

(3 cr.)

Communication Skills

Repeatable for Credit: No

Advanced techniques of speaking; develop persuasion skills in personal, professional and public contexts.

Prerequisite: take COMST-100

COMST-206 Small Group Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Communication skills and theories for group contexts. Dynamics of small group participation; deliberation and problem-solving; conflict management; power and leadership; and team building.

COMST-208 Applied Human Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Application of communication theories to interpersonal, group, mediated, and organizational contexts. Explores the intersection of rhetoric and relationships.

Prerequisite: take COMST-100

COMST-236 Listening

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical analysis and practical application of listening concepts in personal and professional relationships.

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

COMST-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

COMST-400 Special topics in Communication Seminar

(1-3 cr.)

Repeatable for Credit: Yes

Current issues or historical topics related to communication. Specific topic will be advertised prior to semester offered. Course may be repeated three times with different topics or issues.

Prerequisite: take COMST-100. Must be Junior level or higher

COMST-414 Interviewing

(3 cr.)

Repeatable for Credit: No

Principles and techniques for interviewing in both employment and information-gathering contexts.

Computer Networking System and Design Minor

Department of Apparel and Communication Technologies

Program Requirements (21 credits)

Required Courses (9 credits)

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

Selectives (12 credits)

Choose 12 credits from the following courses:

CNIT-330 IP Telephony Design & Implementation

(3 cr.)

Repeatable for Credit: No

Internet protocol (IP) telephony components and protocols examination; converged network interpretation; analog and digital voice interface configuration; quality of service configuration; single and multisite IP telephony deployment; IP telephony features implementation.

Prerequisites: take CNIT-441

CNIT-361 Workstation And Server

(3 cr.)

Repeatable for Credit: No

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisite: take CNIT 133

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

CNIT-391 Wireless Systems

(3 cr.)

Repeatable for Credit: No

Wireless networking combining Radio Frequency (RF) and Local Area Networking (LAN) technology fundamentals. Basic concepts and building blocks or the convergence between RF and networking technologies. Technologies and tasks vital to installing, managing, and supporting wireless networks.

Prerequisite: take CNIT-134

CNIT-441 Scalable Internetworks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT-134

CNIT-443 Multi-Layer Switched Networks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Build multi-layer switched networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT 134

CNIT-444 Internetwork Troubleshooting

(3 cr.)

Repeatable for Credit: No

Specialization course for the Cisco CCNP professional certification. Students will learn to troubleshoot internetworks. Students are required to pass the associated Cisco certification examination.

Prerequisites: Take CNIT-441 and CNIT-443

CNIT-450 Enterprise Solutions and Unified Communications

(3 cr.)

Repeatable for Credit: No

Enterprise-level network utilizing the technologies and methods that are current industry best practices. Provide enterprise network solutions and unified communications to an organization while maintaining quality of service. New and emerging network technologies for an enterprise network.

Prerequisites: take CNIT-330, CNIT-363, and CNIT-444

CNIT-484 Advanced Network Security and Auditing

(3 cr.)

Repeatable for Credit: No

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: take CNIT 301 , CNIT-383, and either CNIT 361 or CS 480

Computer Science Minor

Program Requirements (21 credits)

Grades for courses taken for the minor must be 2.0 (C) or better.

Required Courses (12 credits)

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisite: take CS 144 and CS-145

Group I Selectives (6-9 credits)

Any 2xx or higher level CS/MSCS courses (excluding CS-244). See course catalog for course options.

Group II Selectives (0-3 credits)

No credits required from the category - may choose one course from the following to meet the total 21 credit requirement.

BUMIS-333 Management Information Systems - Decision Support Systems

(3 cr.)

Repeatable for Credit: No

Exploration of business management decision making through utilization of computer software-based decision support systems; employs spreadsheet and database software as an aid to management in making, implementing and controlling decisions. topics include arithmetic, logical, and specialized functions; charting; tables; designing and modifying databases; and creating and editing database reports.

Prerequisite: take BUACT-206

CEE-205 Circuit Analysis and Design

(4 cr.)

Repeatable for Credit: No

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real resistors/capacitors/inductors, steady state/transient behavior of circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory.

Prerequisite: take MATH-154 or MATH-157

CEE-215 Electronics

(4 cr.)

Repeatable for Credit: No

Introduction to the physics/modeling of semiconductor devices such as diodes and transistors. Biasing, small/large signal circuit behavior, temperature dependence. Differential/multistage/power amplifiers. Time and frequency response of devices and circuits, including operational amplifiers. Discussion of integrated circuit fabrication technology.

Prerequisite: Take CEE-205

CEE-225 Digital Logic

(3 cr.)

Repeatable for Credit: No

Analysis and design of combinational and sequential logic circuits. Boolean algebra, number systems and logic gates. Realization of Boolean Functions. Synchronous and asynchronous sequential logic: counters and registers. Finite state machines, state transitions and state equivalence. Logic circuit simulation. Discrete gates and array logic laboratory experiments.

Prerequisite: take CEE-205 (or concurrent registration)

CEE-345 Microprocessor System Design

(3 cr.)

Repeatable for Credit: No

Study of the internal organization of microprocessors, instruction sets, timers and interrupts, and serial and parallel ports programming using Assembly and C languages. The design and interfacing of peripherals for a selected microprocessor and use of debugger hardware including an in-circuit serial programmer unit.

Prerequisites: take CEE-325 and CS 244

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

DES-325 Introduction to Web Design

(3 cr.)

Repeatable for Credit: No

Processes and concepts involved in the design and development of Web sites.

Prerequisites: take DES 310 with a grade of C or better

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

ENGR-325 Computer Aided Manufacturing for Manufacturing Engineers

(3 cr.)

Repeatable for Credit: No

Effects of product mix and demand patterns on manufacturing system design and selection of process control methods. Introduction to quick changeover strategies and reprogrammable automation including numerically controlled machine tools, robotics, group technology, CAD/CAM, automated inspection and other computerized processing techniques.

Prerequisites: take ETECH-210, and take ETECH-252 or ETECH-341

ET-271 Digital Logic and Switching

(3 cr.)

Repeatable for Credit: No

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebra and number systems, switching functions, minimization, single and multiple output networks, realization of functions, programmable logic devices. Finite state sequential machines, state transition diagrams, machines and state equivalence. Algorithmic state machines and asynchronous state machines.

Prerequisite: take ET-260

ETECH-303 Computer Aided Manufacturing

(3 cr.)

Repeatable for Credit: No

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation.

Prerequisites: take ETECH-252 and ETECH 210

ETECH-415 Robotic System Integration

(3 cr.)

Repeatable for Credit: No

Integration and the control of industrial robotic systems, including teach pendant, programming, machine vision, and tooling design.

Prerequisite: take ENGR 363 or ET 341

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

- Field Experience, Independent Study, or Cooperative Education (2 cr.)

Construction Safety/Risk Control Minor

Department of Engineering and Technology

Construction Department

Program Requirements (18 credits)

Required Courses (11 credits)

RC-388 Construction Safety

(3 cr.)

Repeatable for Credit: No

Overview of construction safety and health, including identification of the most common occupational hazards associated with the construction industry. Emphasis is on evaluating hazards, choosing appropriate controls to protect workers, and developing strategies for implementing these controls into effective management systems.

RC-392 Construction Risk Management

(3 cr.)

Repeatable for Credit: No

Analysis and application of fundamental process steps for construction job site risk management.

Prerequisite: take RC-388

RC-383 Occupational Safety and Health Standards

(3 cr.)

Repeatable for Credit: No

Understanding and proper application of a range of regulations and standards relating to occupational safety and health.

AEC-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Selectives (7 credits)

Select 7 credits for selectives from program plan sheet supplied by adviser. The minor is specifically limited to Construction majors or those who have taken the eight construction course sequence containing the integrated Risk Control content.

Digital Marketing Minor

The Digital Marketing Minor offers a unique educational experience for students who want to excel in the digital world of marketing. The minor is designed to give the students a competitive advantage with the skills needed to compete in the fast-changing business world, where most companies are using technology to reach their consumers. This competitive advantage, gained by digital marketing skills, enables the student to hit the ground running in their dream marketing job. Incorporated in the program are the courses related to business administration, marketing, digital technology, and information and communication technology. Technical report writing, data analysis, interpersonal communication skills are taught as a part of the curriculum. Experimental design and experiential learning stressed across the curriculum.

Requirements (24 credits)

Marketing Core (9 credits)

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the

marketing activities.

BUMKG-350 Digital Marketing Strategy and Practice

(3 cr.)

Repeatable for Credit: No

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans.

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

Digital Technology Core (12 credits)

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

ICT-255 Basic Data Concepts

(3 cr.)

Repeatable for Credit: No

Database application exploration in an enterprise context with basic data concepts, principles and guidelines of relational database design, common entity relationships, basic queries, and security and data integrity.

Selective (3 credits)

Choose at least 3 credits (one course) from the following:

BUMKG-370 Integrated Marketing Communications

(3 cr.)

Repeatable for Credit: No

Fundamentals of integrated marketing communications; integration of elements of the promotional mix, including advertising, sales promotions, public relations, online marketing, social media and other modern methods of marketing communication.

Prerequisites: take BUMKG-330

BUMKG-425 Principles of Mobile Marketing

(3 cr.)

Repeatable for Credit: No

How mobile marketing is defining business today, including strategy, tracking return on investment (ROI), advertising, applications and mobile websites. Text messaging, quick response (QR) codes, consumer interactions with mobile devices, and the laws and ethics of mobile marketing are explored.

Prerequisites: take BUMKG 330 and ICT 103

BUMKG-479 Marketing Research

(3 cr.)

Repeatable for Credit: No

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management.

Prerequisites: take BUMKG-330 & either STAT 130, STAT-320, or STAT-331

BURTL-329 Retail Promotions

(3 cr.)

Repeatable for Credit: No

Planning and execution of all the promotional messages used to communicate with members of a target market.

Prerequisite: take BURTL-127

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

DMT-485 Search Engine Optimization

(3 cr.)

Repeatable for Credit: No

Contemporary application of strategies and technology related to the improvement of placement in search engine and other relevant search results.

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

ICT-309 Collaborative Computing

(3 cr.)

Repeatable for Credit: No

History, application, design and analysis of collaborative computing.

Prerequisite: take ICT-103

ICT-355 ICT Systems Analysis and Design

(3 cr.)

Repeatable for Credit: No

Information and communication technologies (ICT) systems analysis and design methods supporting contemporary enterprise. Includes roles, relationship to systems development life cycle (SDLC) reflecting contemporary ICT systems analysis and design practice, methodologies and ICT project management.

Prerequisites: take ICT 255 and ICT 305

INMGT-482 Business Analytics

(3 cr.)

Repeatable for Credit: No

Business needs and technology trends in analytics. Practical application of business analytic tools to determine key business performance indicators and use of these indicators to drive business and operations management decisions and actions.

Prerequisites: INMG 314 and STAT 130 or MATH 123

Disability Services Minor

Department of Rehabilitation and Counseling

Program Requirements (22 credits)

Required Courses (14 credits)

**REHAB-398 MUST be the last course taken for Minor*

REHAB-101 Introduction to Rehabilitation

(3 cr.)

Repeatable for Credit: No

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

REHAB-102 Community Resources

(3 cr.)

Repeatable for Credit: No

Role of community resources in rehabilitation.

REHAB-201 Pre Practicum in Rehabilitation

(1 cr.)

Repeatable for Credit: No

Issues related to professional development, ethics, and career awareness in vocational rehabilitation and criminal justice.

Prerequisites: take REHAB-101, REHAB-102, and REHAB-230

REHAB-230 Psychosocial Aspects of Disability

(3 cr.)

Repeatable for Credit: No

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisite: take REHAB-101

REHAB-398 Rehabilitation Practicum

(4 cr.)

Repeatable for Credit: Yes

Community-based learning in an approved position to further develop skills and understanding of the challenges and potentials of various careers working with persons with disabilities, older adults and/or offenders. Written and oral communication emphasis.

Department Consent

Prerequisites: take REHAB-201 and COUN-405, each with a grade of "C" or better

Restricted Professional Electives (8 credits)

Select 8 credits with minor advisor approval.

REHAB-305 Sign Language I

(3 cr.)

Communication Skills

Repeatable for Credit: No

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-321 Rehabilitation of Public Offenders

(3 cr.)

Repeatable for Credit: No

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-325 Rehabilitation and Sensory Disability

(3 cr.)

Repeatable for Credit: No

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed.

REHAB-327 Psychiatric Rehabilitation

(3 cr.)

Repeatable for Credit: No

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take REHAB-230 and PSYC-361

REHAB-350 Independent Living

(2 cr.)

Repeatable for Credit: No

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-351 Benefits Coordination: Practice and Application

(3 cr.)

Repeatable for Credit: No

Benefits Specialist role and function; rehabilitation content applications. Benefits Program requirements: process and application.

Prerequisite: take REHAB-102

REHAB-355 Rehabilitation of the Older Disabled Worker

(2 cr.)

Repeatable for Credit: No

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability.

REHAB-360 Assistive Technology

(2 cr.)

Repeatable for Credit: No

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed.

REHAB-401 Principles and Techniques of Caseload Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities.

Prerequisites: take REHAB 102 and REHAB-230

REHAB-402 Management of Non-Profit Organizations

(3 cr.)

Repeatable for Credit: No

Principles and practices in the operation of non-profit organizations. Comparison of how non-profit and for-profit operations are affected by organizational structures and authority, budgeting practices, sources of income, personnel issues, strategic planning and program evaluation, and marketing. Application to community agencies.

REHAB-452 Group Processes in Rehabilitation Settings

(2 cr.)

Repeatable for Credit: No

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-460 Rehabilitation in the Private Sector

(3 cr.)

Repeatable for Credit: No

Case coordination to support maximum medical recovery and/or vocational rehabilitation of an injured person involved in insurance funded cases. Differences between public and private rehabilitation processes. Interviewing, planning, assessing transferable skills, placing in suitable work, and communicating with other involved individuals. Business practices, professional roles, and ethical issues.

Prerequisite: take REHAB-310

REHAB-461 Forensics for the Human Service Professional

(2 cr.)

Repeatable for Credit: No

Terminology and practices associated with forensic for human service professionals. Strategies and materials related to preparation for testimony and expert witness testimony in a court of law and other legal settings.

REHAB-462 Absence Management

(3 cr.)

Repeatable for Credit: No

Orientation to workers with disabilities in business and industry. Focus on reducing disability related costs, and the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business, community resources, and rehabilitation.

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

REHAB-488 Developing Collaborative Partnerships

(3 cr.)

Repeatable for Credit: No

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

COUN-494 Counseling Older Persons

(2-3 cr.)

Repeatable for Credit: No

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

Economics Minor

Department of Social Sciences

Program Requirements (18 credits)

Required Courses (12 credits)

ECON-210 Principles of Macroeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Introduction to primary concepts of macroeconomic analysis. Examine tools of basic economic analysis including scarcity, opportunity cost, and supply and demand; macroeconomic issues such as GDP, economic growth, inflation, and unemployment; the Federal Reserve and financial system; fiscal and monetary policy; and international finance and the global economy.

ECON-215 Principles of Microeconomics

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Economics

Repeatable for Credit: No

Theory of individual economic behavior; price determination; market structures; resource markets; externalities; public policy; welfare and inefficiency; international economics; and current microeconomic topics.

ECON-410 Microeconomics

(3 cr.)

Repeatable for Credit: No

Value and distribution theory; analysis of demand- firm, industry and utility; pricing of production factors.

Prerequisite: take ECON-215

ECON-415 Macroeconomics

(3 cr.)

Repeatable for Credit: No

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment.

Prerequisite: take ECON-215

ECON-435 Money, Banking, Financial Markets

(3 cr.)

Repeatable for Credit: No

This course teaches the foundational tools that economists use to analyze and evaluate financial markets and the macroeconomy in the short to medium term. The Federal Reserve and their role as the monetary authority are a central theme in the class. The course focuses on the importance of financial markets and their impact on the wider economy. There is a strong emphasis placed on applying knowledge learned in the class to current macroeconomic themes and events in creative ways.

Prerequisites: take either ECON-201 or ECON-210

Selectives (6 credits)

Select six additional ECON-XXX credits numbered 250 or above.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Economics Teaching Minor

Program Requirements

In addition to the 20-21 credits required for the Economics Minor, students seeking teaching certification must take:

EDUC-304 Secondary Curriculum Methods and Assessment

(2 cr.)

Repeatable for Credit: No

Discipline-specific curriculum, methods, and assessment procedures for teaching content minors.

Department Consent

Prerequisite: Benchmark I completion

EDUC-305 Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Directed teaching in school setting in subject area consistent with teaching minor or add-on certification. Completion of teacher work sample and portfolio.

Department Consent

Prerequisite: Benchmark II completion

English Writing and Literature Minor

Department of English and Philosophy

Program Requirements (15 credits)

Writing Requirement (6 credits):

Take any course with an ENGL prefix except 090, 101, 102, 111, 112 and 113.

ENGL-121 Introduction to Professional Communication

(3 cr.)

Repeatable for Credit: No

Trends, opportunities, and technologies shaping the field of professional communication. Career paths and specializations as well as ethical responsibilities.

Prerequisite: Professional Communication & Emerging Media majors only

ENGL-125 Professional Writing Elements of Style

(3 cr.)

Repeatable for Credit: No

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisite: take either ENGL 101 or ENGL 111

ENGL-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-207 Writing for the Media

(3 cr.)

Repeatable for Credit: No

Theory and practice of writing for the media.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-210 Journalism Practicum

(1 cr.)

Repeatable for Credit: Yes

Work on regularly published newspaper and submit articles for evaluation and publication.

Department Consent

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-215 Foundations of Technical Communication

(3 cr.)

Repeatable for Credit: No

Overview of major writing and documentation forms and conventions used in technical communication, including document design strategies, technical reports, and other professional texts.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-218 Mass Communication: Effects of the Technology on Society

(3 cr.)

Repeatable for Credit: No

The ideological and social implications of mass communication technology.

Prerequisite: take either ENGL-101 or ENGL-111

ENGL-225 Editing Processes and Practices

(3 cr.)

Repeatable for Credit: No

Comprehensive editing, copy editing, proofreading, and style selection; review of Standard Written English grammar and usage.

Prerequisites: take ENGL-102 or ENGL-112 or ENGL-113; and take ENGL-125

ENGL-245 Creative Writing

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Introduction to creative writing with an ethics component in four genres: Poetry, fiction, drama, and creative nonfiction.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ENGL-312 Transnational Professional Communication

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the global aspects of professional communication, including translation and cross-cultural visual communication. Apply cultural models in order to understand and address the needs of users and colleagues from different cultural and linguistic backgrounds.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-317 Topics in Journalism

(1-3 cr.)

Repeatable for Credit: No

Intensive study of and practice in topics in journalism.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-335 Introduction to Digital Humanities

(3 cr.)

Repeatable for Credit: No

Explores the dynamic interaction between digital technologies and the humanities (art, literature, film, history, media, pop culture).

ENGL-340 The Structure of English

(3 cr.)

Repeatable for Credit: No

New analytic and descriptive methods applied to modern English.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-342 Creative Writing II

(3 cr.)

Repeatable for Credit: No

Advanced practice in creative writing that builds on skills taught in ENGL-245 Creative Writing, focusing on genre specific texts.

Prerequisite: take ENGL-245

ENGL-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-350 Digital Storytelling

(3 cr.)

Repeatable for Credit: No

Create and critique visual and digital stories and the deployment of digital and visual media tools to tell a variety of stories from diverse social and cultural contexts.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-370 Developing Health Messages

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the creation of effective health messages. Providing an understanding of how to recognize the diverse needs of health consumers with a focus on addressing health literacy issues, create health messaging tools and write for both specialized and general health audiences.

Instructor's Consent Required

ENGL-371 Rhetoric and Style: Strategies of Argumentation

(3 cr.)

Repeatable for Credit: No

Examines classical rhetoric to identify enduring elements and concerns as well as critical tensions and conflicts. Students will obtain the vocabulary and conceptual understanding of the rhetorical tradition with attention to development both oral and written arguments.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-385 Document Design

(3 cr.)

Repeatable for Credit: No

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles.

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

ENGL-396 Expository Writing (Travel Writing in Scotland)

(3 cr.)

Global Perspective

Repeatable for Credit: No

Forms, strategies and styles of expository writing. Emphasis on travel writing in Scotland, appropriate style and mechanics for presenting travel writing.

ENGL-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ENGL-407 Seminar in Applied Journalism

(3 cr.)

Repeatable for Credit: No

Investigation into journalistic practices in particular disciplines, industries, and trades. Students will research, synthesize, and apply journalistic practices to their chosen field.

Prerequisite: take ENGL-207

ENGL-418 Convergent Communication

(3 cr.)

Repeatable for Credit: No

Defining and analyzing convergent medial practices in professional communication disciplines, industries and trades; exploring how convergence of print, video/audio and online media has influenced professional writing.

Prerequisite: take ENGL-218

ENGL-430 Writing for Content Management

(3 cr.)

Repeatable for Credit: No

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-435 Writing Technical Manuals

(3 cr.)

Repeatable for Credit: No

Production of a technical manual--planning procedure, collecting information, analyzing audience, writing and field testing.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-437 Technical Writing Practicum

(1-3 cr.)

Repeatable for Credit: Yes

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document.

Department Consent

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical

reports to articulate research methodologies and disseminate findings for broad audiences.
Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance.

ENGL-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-470 Special Topics in Health Communication

(3 cr.)

Repeatable for Credit: No

In-depth study of special topics in the field of health communication.

ENGL-471 Professional Communication Capstone

(3 cr.)

Repeatable for Credit: No

Preparing to enter the job market in a professional communication field, both as a full-time employee and as a freelancer or consultant. Practical issues such as networking, self-employment, copyright and portfolio development. Production of a significant client-based capstone project.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-475 Applied Health Communication Capstone

(3 cr.)

Repeatable for Credit: No

Completion of an original research or field experience project for business or industry. Results in either a deliverable for a client with a project report or a research paper.

Instructor's Consent Required

Completion of an original research or field experience project for business or industry. Results in either a deliverable for a client with a project report or a research paper.

ENGL-480 Seminar in Digital Humanities

(3 cr.)

Repeatable for Credit: No

Research into and discussion of current and emerging issues in the digital humanities. Subject matter covered will vary to reflect the state of current research.

Prerequisite: Take ENGL-335

ENGL-495 Digital Humanities Capstone

(3 cr.)

Repeatable for Credit: Yes

Development of student-initiated research project in the digital humanities over two semesters. Results in thesis in medium appropriate to topic.

Prerequisite: Take ENGL-335

ENGL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Literature Requirement (6 credits):

Take any course with a LIT prefix.

LIT-203 American Poets

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Poetry of American writers: how culture, race, ethnicity, and nature shape American poetry.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-205 The Short Story

(3 cr.)

Arts and Humanities - Literature, Cross-disciplinary Issues

Repeatable for Credit: No

Style, structure, history and development of short story as a literary form.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-208 Fiction Into Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of film adaptations. Special attention is given to the evolving depiction of non-dominant racial and ethnic cultural groups in literature and film.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-230 American Cinema

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of American cinematic development. Special attention is given to the evolving depiction of non-dominant cultural groups and contemporary issues. Examination of these issues allows students to actively discover, assess, and execute the creative problem-solving needed to be fully engaged with contemporary issues.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-255 Recent World Literature

(3 cr.)

Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Selected readings in Contemporary Literature in Translation.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-260 Modern American Literature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Selected poetry, prose and drama produced since World War I.

Prerequisite: take either ENGL 101 or ENGL 111

LIT-272 Women Writers

(3 cr.)

Racial and Ethnic Studies Category B, Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Study of representative American and international women writers within the tradition of feminist literary theory.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-273 American Multicultural Literature

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature

Repeatable for Credit: No

American multicultural literature, focusing on Hispanic, African, Asian, and Native American writers.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-280 Best-Sellers

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Fiction and non-fiction best-sellers: expression of an impact on popular culture.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-281 Recent American Literature: Culture, Race, Ethnicity and Nature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

How culture, race ethnicity, and nature shape American literature.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-285 Science Fiction

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey of popular and classic science fiction.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-300 Children's Literature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey and ways of presenting literature for children from infancy to age 12.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-302 Topics in Literature

(1 cr.)

Arts and Humanities - Literature

Repeatable for Credit: Yes

Intensive analysis of selected authors and literary works with emphasis on discourse analysis in group and workshop settings.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-303 Coming of Age in Literature and Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Exploration of literary and filmic works that treat age, coming of age, aging, and old age. Literary and critical analysis using age studies in literature.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-306 Shakespeare

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Several representative plays and selected criticism.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-307 After 9/11: American Literature of Public Crisis and Trauma

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and cultural analysis of 9/11 and its aftermath in American and global contexts. Exploration of new racial formations, discourses of citizenship in the wake of trauma.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-308 Alice Walker: Beyond Purple

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature, Cross-disciplinary Issues

Repeatable for Credit: No

Explore Alice Walker's short stories, essays, children's literature, and novels. Discuss Walker's international reputation as a contemporary feminist African-American author and activist. Consider Walker's writing in its social and historical contexts, particularly in light of the civil rights, anti-Vietnam war, and women's liberation movements, and connect those themes to contemporary issues.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-450 Experience in China: Modern East Asian Literature and Cinema

(3 cr.)

Global Perspective

Repeatable for Credit: No

Through the Experience China Study Abroad Program, this course introduces students to the cultural, social, political, and aesthetic developments in Modern East Asia through the study of major works of 20th and 21st century Chinese, Japanese, and Korean Literature and film. Includes study of memoirs, writings of political theory, sociology, religion, and history.

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-450 Studies in Literature: Women's Autobiographical Writing: Private Lives, Public Stories

(3 cr.)

Humanities and the Arts - Literature

Repeatable for Credit: Yes

Women's Autobiographical Writing: Private Lives, Public Stories: The changing contexts of women's lives and how women's actions have shaped and responded to those contexts as seen through women's autobiography. Rhetorical situations and consequences of various types of women's autobiography including autobiography using new media such as blogging.

ENGL-102 or ENGL-112

LIT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

Electives (3 credits):

Take any additional course with a LIT or ENGL prefix except 090, 101, 102, 111, 112 and 113.

ENGL-121 Introduction to Professional Communication

(3 cr.)

Repeatable for Credit: No

Trends, opportunities, and technologies shaping the field of professional communication. Career paths and specializations as well as ethical responsibilities.

Prerequisite: Professional Communication & Emerging Media majors only

ENGL-125 Professional Writing Elements of Style

(3 cr.)

Repeatable for Credit: No

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisite: take either ENGL 101 or ENGL 111

ENGL-149 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-207 Writing for the Media

(3 cr.)

Repeatable for Credit: No

Theory and practice of writing for the media.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-210 Journalism Practicum

(1 cr.)

Repeatable for Credit: Yes

Work on regularly published newspaper and submit articles for evaluation and publication.

Department Consent

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-215 Foundations of Technical Communication

(3 cr.)

Repeatable for Credit: No

Overview of major writing and documentation forms and conventions used in technical communication, including document design strategies, technical reports, and other professional texts.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-218 Mass Communication: Effects of the Technology on Society

(3 cr.)

Repeatable for Credit: No

The ideological and social implications of mass communication technology.

Prerequisite: take either ENGL-101 or ENGL-111

ENGL-225 Editing Processes and Practices

(3 cr.)

Repeatable for Credit: No

Comprehensive editing, copy editing, proofreading, and style selection; review of Standard Written English grammar and usage.

Prerequisites: take ENGL-102 or ENGL-112 or ENGL-113; and take ENGL-125

ENGL-245 Creative Writing

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Introduction to creative writing with an ethics component in four genres: Poetry, fiction, drama, and creative nonfiction.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-249 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ENGL-312 Transnational Professional Communication

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the global aspects of professional communication, including translation and cross-cultural visual communication. Apply cultural models in order to understand and address the needs of users and colleagues from different cultural and linguistic backgrounds.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-317 Topics in Journalism

(1-3 cr.)

Repeatable for Credit: No

Intensive study of and practice in topics in journalism.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-335 Introduction to Digital Humanities

(3 cr.)

Repeatable for Credit: No

Explores the dynamic interaction between digital technologies and the humanities (art, literature, film, history, media, pop culture).

ENGL-340 The Structure of English

(3 cr.)

Repeatable for Credit: No

New analytic and descriptive methods applied to modern English.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-342 Creative Writing II

(3 cr.)

Repeatable for Credit: No

Advanced practice in creative writing that builds on skills taught in ENGL-245 Creative Writing, focusing on genre specific texts.

Prerequisite: take ENGL-245

ENGL-349 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-350 Digital Storytelling

(3 cr.)

Repeatable for Credit: No

Create and critique visual and digital stories and the deployment of digital and visual media tools to tell a variety of stories from diverse social and cultural contexts.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-370 Developing Health Messages

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the creation of effective health messages. Providing an understanding of how to recognize the diverse needs of health consumers with a focus on addressing health literacy issues, create health messaging tools and write for both specialized and general health audiences.

Instructor's Consent Required

ENGL-371 Rhetoric and Style: Strategies of Argumentation

(3 cr.)

Repeatable for Credit: No

Examines classical rhetoric to identify enduring elements and concerns as well as critical tensions and conflicts. Students will obtain the vocabulary and conceptual understanding of the rhetorical tradition with attention to development both oral and written arguments.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-385 Document Design

(3 cr.)

Repeatable for Credit: No

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles.

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

ENGL-396 Expository Writing (Travel Writing in Scotland)

(3 cr.)

Global Perspective

Repeatable for Credit: No

Forms, strategies and styles of expository writing. Emphasis on travel writing in Scotland, appropriate style and mechanics for presenting travel writing.

ENGL-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

ENGL-407 Seminar in Applied Journalism

(3 cr.)

Repeatable for Credit: No

Investigation into journalistic practices in particular disciplines, industries, and trades. Students will research, synthesize, and apply journalistic practices to their chosen field.

Prerequisite: take ENGL-207

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-418 Convergent Communication

(3 cr.)

Repeatable for Credit: No

Defining and analyzing convergent medial practices in professional communication disciplines, industries and trades; exploring how convergence of print, video/audio and online media has influenced professional writing.

Prerequisite: take ENGL-218

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance.

ENGL-430 Writing for Content Management

(3 cr.)

Repeatable for Credit: No

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-435 Writing Technical Manuals

(3 cr.)

Repeatable for Credit: No

Production of a technical manual--planning procedure, collecting information, analyzing audience, writing and field testing.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-437 Technical Writing Practicum

(1-3 cr.)

Repeatable for Credit: Yes

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document.

Department Consent

ENGL-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

ENGL-470 Special Topics in Health Communication

(3 cr.)

Repeatable for Credit: No

In-depth study of special topics in the field of health communication.

ENGL-471 Professional Communication Capstone

(3 cr.)

Repeatable for Credit: No

Preparing to enter the job market in a professional communication field, both as a full-time employee and as a freelancer or consultant. Practical issues such as networking, self-employment, copyright and portfolio development. Production of a significant client-based capstone project.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-475 Applied Health Communication Capstone

(3 cr.)

Repeatable for Credit: No

Completion of an original research or field experience project for business or industry. Results in either a deliverable for a client with a project report or a research paper.

Instructor's Consent Required

Completion of an original research or field experience project for business or industry. Results in either a deliverable for a client with a project report or a research paper.

ENGL-480 Seminar in Digital Humanities

(3 cr.)

Repeatable for Credit: No

Research into and discussion of current and emerging issues in the digital humanities. Subject matter covered will vary to reflect the state of current research.

Prerequisite: Take ENGL-335

ENGL-495 Digital Humanities Capstone

(3 cr.)

Repeatable for Credit: Yes

Development of student-initiated research project in the digital humanities over two semesters. Results in thesis in medium appropriate to topic.

Prerequisite: Take ENGL-335

ENGL-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

LIT-203 American Poets

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Poetry of American writers: how culture, race, ethnicity, and nature shape American poetry.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-205 The Short Story

(3 cr.)

Arts and Humanities - Literature, Cross-disciplinary Issues

Repeatable for Credit: No

Style, structure, history and development of short story as a literary form.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-208 Fiction Into Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of film adaptations. Special attention is given to the evolving depiction of non-dominant racial and ethnic cultural groups in literature and film.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-230 American Cinema

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

A literary and cultural examination of American cinematic development. Special attention is given to the evolving depiction of non-dominant cultural groups and contemporary issues. Examination of these issues allows students to actively discover, assess, and execute the creative problem-solving needed to be fully engaged with contemporary issues.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-255 Recent World Literature

(3 cr.)

Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Selected readings in Contemporary Literature in Translation.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-260 Modern American Literature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Selected poetry, prose and drama produced since World War I.

Prerequisite: take either ENGL 101 or ENGL 111

LIT-272 Women Writers

(3 cr.)

Racial and Ethnic Studies Category B, Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Study of representative American and international women writers within the tradition of feminist literary theory.
Prerequisite: take either ENGL-101 or ENGL-111

LIT-273 American Multicultural Literature

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature

Repeatable for Credit: No

American multicultural literature, focusing on Hispanic, African, Asian, and Native American writers.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-280 Best-Sellers

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Fiction and non-fiction best-sellers: expression of an impact on popular culture.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-281 Recent American Literature: Culture, Race, Ethnicity and Nature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

How culture, race ethnicity, and nature shape American literature.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-285 Science Fiction

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey of popular and classic science fiction.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-299 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-300 Children's Literature

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey and ways of presenting literature for children from infancy to age 12.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-302 Topics in Literature

(1 cr.)

Arts and Humanities - Literature

Repeatable for Credit: Yes

Intensive analysis of selected authors and literary works with emphasis on discourse analysis in group and workshop settings.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-303 Coming of Age in Literature and Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Exploration of literary and filmic works that treat age, coming of age, aging, and old age. Literary and critical analysis using age studies in literature.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-306 Shakespeare

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Several representative plays and selected criticism.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-307 After 9/11: American Literature of Public Crisis and Trauma

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and cultural analysis of 9/11 and its aftermath in American and global contexts. Exploration of new racial formations,

discourses of citizenship in the wake of trauma.
Prerequisite: take either ENGL-101 or ENGL-111

LIT-308 Alice Walker: Beyond Purple

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature, Cross-disciplinary Issues

Repeatable for Credit: No

Explore Alice Walker's short stories, essays, children's literature, and novels. Discuss Walker's international reputation as a contemporary feminist African-American author and activist. Consider Walker's writing in its social and historical contexts, particularly in light of the civil rights, anti-Vietnam war, and women's liberation movements, and connect those themes to contemporary issues.

Prerequisite: take either ENGL-101 or ENGL-111

LIT-399 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

LIT-450 Studies in Literature: Women's Autobiographical Writing: Private Lives, Public Stories

(3 cr.)

Humanities and the Arts - Literature

Repeatable for Credit: Yes

Women's Autobiographical Writing: Private Lives, Public Stories: The changing contexts of women's lives and how women's actions have shaped and responded to those contexts as seen through women's autobiography. Rhetorical situations and consequences of various types of women's autobiography including autobiography using new media such as blogging.

ENGL-102 or ENGL-112

LIT-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

Prerequisite: take either ENGL-101 or ENGL-111

Note:

Minor can be elected by students in the Professional Communication and Emerging Media program.

Enterprise Technology Minor

Department of Communication Technologies

Program Requirements (21 credits)

Core Courses

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

ICT-255 Basic Data Concepts

(3 cr.)

Repeatable for Credit: No

Database application exploration in an enterprise context with basic data concepts, principles and guidelines of relational database design, common entity relationships, basic queries, and security and data integrity.

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

ICT-355 ICT Systems Analysis and Design

(3 cr.)

Repeatable for Credit: No

Information and communication technologies (ICT) systems analysis and design methods supporting contemporary enterprise. Includes roles, relationship to systems development life cycle (SDLC) reflecting contemporary ICT systems analysis and design practice, methodologies and ICT project management.

Prerequisites: take ICT 255 and ICT 305

ICT-401 Information Technology Policy and Audit

(3 cr.)

Repeatable for Credit: No

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take ICT-305 and BUACT-206

ICT-405 Enterprise Technology Seminar

(3 cr.)

Repeatable for Credit: No

Trends in enterprise technology, including: systematic development processes to solve business problems and support business processes, identification and use of contemporary enterprise technology solutions, sources of enterprise technology support, training and information and enterprise technology credentialing and career opportunities.

Prerequisite: take ICT 355

INMGT-314 Enterprise Resource Planning Practicum

(3 cr.)

Repeatable for Credit: No

Practice of the functions within an enterprise, through the Enterprise Resource Planning System. Systems, Applications, and Products (SAP) virtual enterprise platform used to demonstrate how the physical work flow, electronic information exchange and financial flow are integrated into an enterprise.

Prerequisites: take INMGT 200 or INMGT 210 or BUMIS 333 or ICT 305

Food Science & Technology Minor

Department of Food and Nutrition

Program Requirements (19 credits)

Required Courses (13 credits)

FN-240 Food Science

(4 cr.)

Repeatable for Credit: No

Understanding the Science of Food through physical, chemical, and microbiological changes affecting storage, processing and distribution of various food products.

Prerequisite: take CHEM-201

FN-350 Unit Operations in Food Processing

(3 cr.)

Repeatable for Credit: No

Principles, technology, and application of unit operations in food processing; laboratory and pilot-scale processing of food and agricultural commodities; quantitative measurements and analysis of unit operations.

Prerequisite: take FN-240

FN-425 Food Chemistry

(3 cr.)

Repeatable for Credit: No

Chemical structure and properties of food components, including water, carbohydrates, protein, lipids, other nutrients and food additives; chemical reactions of food components during processing, storage and utilization.

Prerequisite: take FN-240

FN-402 Food Microbiology

(3 cr.)

Repeatable for Credit: No

Application of microbiology concepts relevant to food products; analysis for food spoilage microorganisms and foodborne pathogens based on conventional methods; molecular detection techniques; intrinsic and extrinsic parameters for food preservation.

Prerequisite: take BIO-306

Elective Courses (6 credits)

FN-400 Food Quality

(4 cr.)

Repeatable for Credit: No

Applications of qualitative and quantitative tools in conjunction with statistical methods to implement quality management in the food industry.

Prerequisites: Take FN-350, and take either STAT 130 or STAT-320

FN-410 Food & Nutrition Policy Regulation & Law

(3 cr.)

Repeatable for Credit: No

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review.

FN-435 Food Analysis

(3 cr.)

Repeatable for Credit: No

Principles and methods in analysis of nutritive and bioactive components in food; nutrient and ingredient characterization; analytical methods in food quality and safety assurance; standard methods in the food quality control laboratory.

Prerequisite: take CHEM-315

FN-442 Basic Sensory Analysis

(3 cr.)

Repeatable for Credit: No

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/ acceptance tests. Appropriate for all majors who produce products for/or merchandise to consumers.

Prerequisite: FN-124 or FN-240

FN-450 Food Engineering

(3 cr.)

Repeatable for Credit: No

Application of pertinent chemistry, physics and mathematics principles to food processing.

Prerequisites: take MATH-153, or MATH 156 , PHYS 211 and FN-350

FN-465 Food Product Development

(3 cr.)

Repeatable for Credit: No

Food ingredient properties; integrated application of professional competencies for food product development.

Prerequisite: take FN-350

Geographic Information Systems Minor

Department of Social Sciences

Program Requirements (20 credits)

Required Courses

GEOG-251 Introduction to Geographic Information Systems

(4 cr.)

Repeatable for Credit: No

Experience, using state of the art GIS and GPS equipment and theoretical background explaining the many roles GIS technology has in displaying analyzing spatial problems. Major components include computer representation of geographic information, fundamentals of cartography, construction of GIS databases, spatial analysis, and application areas of GIS.

GEOG-351 Intermediate Geographic Information Systems

(4 cr.)

Repeatable for Credit: No
Basic analytical operations in Geographic Information Systems using GIS software.
Prerequisite: take GEOG-251

GEOG-451 Advanced Geographic Information Systems

(4 cr.)
Repeatable for Credit: No
Integration of Geographic Information Systems (GIS) and analytical and quantitative methodologies using spatial analysis, geostatistical analysis, network analysis, and 3-D analysis.
Prerequisite: take GEOG-351

GEOG-452 Geographic Information Systems Research Analysis

(2-4 cr.)
Repeatable for Credit: No
Individualized research applying advanced GIS techniques to problems related to students' areas of study under the supervision of faculty members in their programs. Students plan, design and execute GIS projects which build geographic databases, analyze data spatially, and present results.
Prerequisite: take GEOG 451

Selectives

Additional courses to complete a minimum of 20 credits will be selected in consultation with your adviser. Selectives include at least two courses 200 level or above that enhance the tools of GIS for individual programs. A minimum grade of C+ is required for all courses applied to the Geographic Information Systems minor.

Global Perspectives on Engineering Minor

Required Courses (12 credits)

ANTH-220 Cultural Anthropology

(3 cr.)
Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science
Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

ETECH-370 Global Engineering

(3 cr.)

Global Perspective

Repeatable for Credit: No

Understanding the global aspects of engineering design. Identification of international product, facility, and engineering system design standards. National culture and business norms for global engineering professionals. Evaluate a product or process design using international standards.

Prerequisite: take ETECH 100

Sociology Selective (3 credits)

Select one course.

SOC-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

SOC-385 Globalization and Social Change

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Explanations of globalization processes and global governance from multiple perspectives among the social sciences, including sociology and economics; historical origins of global processes and structures; global social change and resistance; ethical implications of globalization outcomes regarding perspectives and distributions of justice.

Experiential Learning Activity

- XXX-XXX Approved internship, study abroad experience, or EWB-USA project

Graphic Media and Print Management Minor

The Graphic Media and Print Management Minor builds on a student's current creative, technical, business and management course skills to solve problems, analyze customer needs, and plan graphic project production. The coursework strengthens workflow developed for media campaign project management needs in avenues of digital and print graphic media applications. Included are the processes, methods, and tools for managing content for various stakeholder groups that have multiple agendas for the graphic content.

Minor Coursework (18 credits)

Required Courses (12 credits)

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

GCOM-251 Premedia Graphics Production

(3 cr.)

Repeatable for Credit: No

Optimization of digital creation, capture and manipulation of graphics for print and digital distribution. Premedia systems, workflow, color theory, digital photo, bitmap and vector graphic creation and editing. File and font management, document layout, automation, proofing, preflight and submission of files for output.

Prerequisite: take either GCOM-151 or DES-220

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

GCOM-151 Graphics Software Tools

(3 cr.)

Repeatable for Credit: No

Graphics software tools and processes for production/development of print and non-print graphics projects. Software features and application, image capture/creation, page layout, and web development for multiple media workflows.

DES-220 Introduction To 2D Digital Imaging

(3 cr.)

Repeatable for Credit: No

Creative use of digital imaging technology in the visual arts; exploring the development of 2D imagery for both printed and electronic formats incorporating type, vector and raster graphics using layout and composition software.

Prerequisite: Take ART-101 with a grade of C or better

Minor Selectives (6 credits)

Select 6 credits from the following list of courses:

BUMKG-350 Digital Marketing Strategy and Practice

(3 cr.)

Repeatable for Credit: No

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans.

BUMKG-391 Principles of Social Media Marketing Management

(3 cr.)

Repeatable for Credit: No

Review of social media marketing management and the impacts that social media has on marketing strategy, operational strategies, social technology business models, how the conversation economy impacts business, internal and external engagement practices, customer service and reputation management, along with privacy and legal considerations.

Prerequisites: take HT-344 or BUMKG-330

DES-325 Introduction to Web Design

(3 cr.)

Repeatable for Credit: No

Processes and concepts involved in the design and development of Web sites.

Prerequisites: take DES 310 with a grade of C or better

DES-384 Advertising Design

(3 cr.)

Repeatable for Credit: No

Graphic design principles and creative concepts as applied to advertising art. A special course fee applies.

Prerequisites: take DES-205 and DES-360, each with a grade of C or better

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

ENGL-215 Foundations of Technical Communication

(3 cr.)

Repeatable for Credit: No

Overview of major writing and documentation forms and conventions used in technical communication, including document design strategies, technical reports, and other professional texts.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-218 Mass Communication: Effects of the Technology on Society

(3 cr.)

Repeatable for Credit: No

The ideological and social implications of mass communication technology.

Prerequisite: take either ENGL-101 or ENGL-111

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance.

ENGL-418 Convergent Communication

(3 cr.)

Repeatable for Credit: No

Defining and analyzing convergent medial practices in professional communication disciplines, industries and trades; exploring how convergence of print, video/audio and online media has influenced professional writing.

Prerequisite: take ENGL-218

GCOM-260 Graphic Communications Production Systems

(3 cr.)

Repeatable for Credit: No

Current and emerging technologies for production systems that included postpress operations. Production and job planning from a process and systems examination for needs in the graphic communications field. Quality control tools and techniques as applied for image carriers, press systems, process control, ink, toners, and substrates

Prerequisite: take GCOM 141

GCOM-340 Graphic Communications Color and Quality

(3 cr.)

Repeatable for Credit: No

Research and application of industry standards and specifications of color management practices for accurate color reproduction throughout both RGB and CMYK workflows. Colorimetric and densitometric analysis and profiling strategies. Color management applications, devices and best practices for controlling image capture, image display, electronic publishing, soft proofing and printing.

Prerequisite: take GCOM 251

GCOM-351 Cross-Media Campaigns

(3 cr.)

Repeatable for Credit: No

Software, systems and processes used to plan and produce personalized and integrated cross-media (Web, print, e-mail, mobile, PDF, eBook, and other digital media) marketing/promotion campaigns. Databases, layout issues, dynamic content (text, images, charts and graphs), scripting, automation, variable data digital printing and personalization, design platforms and web storefront interaction.

Prerequisites: take GCOM-251

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-

specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.
Prerequisite: take ICT-103

PHOTO-110 Mobile Device Photography: Visual Literacy and Image Narrative

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to visual literacy through still and moving image photography, utilizing mobile devices. Narrative, cinematic, and photographic theory with an emphasis on developing analytic and conceptual skills. Concepts, processes and techniques applicable to many disciplines. A student-provided mobile device (smartphone) with still photographic and video capabilities is required for the course.

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Health and Wellness Education Minor

Department of Physical Education and Athletics

Program Requirements (24 credits)

Required Courses (18 credits)

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

HLTED-360 Personal Health and Fitness

(3 cr.)

Repeatable for Credit: No

Analysis of consequences of individual decisions and lifestyle choices related to personal health and well-being.

HLTED-375 Methods In Health, Wellness and Fitness

(3 cr.)

Repeatable for Credit: No

Health education teaching methods, teaching health related concepts: stress management, cardiovascular fitness, nutrition, and physical testing.

HLTED-376 Organization and Administration of Health Education

(3 cr.)

Repeatable for Credit: No

Planning, promoting, and implementing comprehensive health education programs at the elementary, middle, and secondary levels.

Needs assessment; curriculum development and coordination; public relations; and the development of cooperative relationships with parents, private business, and voluntary and community health agencies.

Department Consent

HLTED-485 Health Education Student Teaching

(2 cr.)

Repeatable for Credit: No

Directed teaching and community experiences in selected off-campus schools.

Department Consent

HWF-340 Community CPR, Automatic External Defibrillation and First Aid

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

American Red Cross Certification - Adult, child and infant CPR, automated external defibrillator use, first aid; personal safety, accident prevention knowledge; sudden illness recognition; respond/administer emergency techniques; social responsibility, ethical reasoning, first aid and emergency situations. A special course fee applies.

Selectives (6 credits)

6 additional credits of selectives from program plan sheet supplied by adviser.

Health and Wellness Minor

Department of Physical Education and Athletics

Program Requirements (23 credits)

Required Courses

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

FN-210 Issues and Ethics in Food and Nutrition

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Apply ethical reasoning to analyze and solve contemporary issues in food and nutrition such as current recommendations, overweight and obesity, sustainability, and food insecurity.

HLTED-360 Personal Health and Fitness

(3 cr.)

Repeatable for Credit: No

Analysis of consequences of individual decisions and lifestyle choices related to personal health and well-being.

HLTED-375 Methods In Health, Wellness and Fitness

(3 cr.)

Repeatable for Credit: No

Health education teaching methods, teaching health related concepts: stress management, cardiovascular fitness, nutrition, and physical testing.

HLTH-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

(Practicum in Health and Wellness)

HWF-340 Community CPR, Automatic External Defibrillation and First Aid

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

American Red Cross Certification - Adult, child and infant CPR, automated external defibrillator use, first aid; personal safety, accident prevention knowledge; sudden illness recognition; respond/administer emergency techniques; social responsibility, ethical reasoning, first aid and emergency situations. A special course fee applies.

HWF-390 Recreational Facilities Management and Leadership

(3 cr.)

Repeatable for Credit: No

Basic methods, concepts, and procedures of planning, programming, budgeting, project management, and operations management. Theories and principles of personal, managerial, and administrative leadership in recreational services; identification of policies, health and emergency procedures, and contingency plans for the operation of recreational leagues and tournaments.

Prerequisites: Take BUMGT-304

Selectives

Select 1-4 additional credits from selectives.

BIO-128 Community Health

(2 cr.)

Repeatable for Credit: No

Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws.

BIO-220 Physiology of Disabilities

(3 cr.)

Repeatable for Credit: No

Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders.

Prerequisites: BIO-132 or BIO-234

FN-212 Nutrition

(3 cr.)

Repeatable for Credit: No

Basic principles of nutrition applied to current issues in health maintenance.

Prerequisites: take BIO-234 and CHEM-115 or higher

FN-355 Sports Nutrition

(3 cr.)

Repeatable for Credit: No

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

Prerequisite: take FN-212

FN-380 Community Nutrition

(3 cr.)

Repeatable for Credit: No

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems.

Prerequisite: take FN-212

FN-396A Obesity and Eating Disorders

(3 cr.)

Repeatable for Credit: No

Examines the complex issues associated with obesity and eating disorders. Consideration of health and psycho-emotional effects on the individual as well as relevant social, economic, and public health implications. Exploration of the etiology of obesity and the spectrum of disordered eating as well as appropriate treatment approaches.

Prerequisites: take FN-102 or FN-212

HDFS-115 Healthy Couple Relationships

(3 cr.)

Repeatable for Credit: No

Intimate relationship development; characteristics of diverse committed relationships. Elements of healthy relationships and issues leading to relationship dissolution. topics include: self-awareness, communication, love, commitment, sexualities, sexual decision-making, partner selection, and relationship dysfunctions. Realistic expectations about intimate relationships.

HDFS-257 Lifespan Sexuality

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Introduction to human sexuality over the lifespan, utilizing an individual and family perspective. Development of sexual behavior, relationships, and gender characteristics from infancy to late life. Emphasis on ethical issues and implications of sexuality, gender and sexual orientation. Discussion of love and intimacy as key aspects of sexuality.

HDFS-310 Family Stress, Coping and Adaptation

(1 cr.)

Repeatable for Credit: No

Impact of family development and stress on individual and family well-being.

HDFS-345 Health Care Dilemmas & Decisions for Families

(3 cr.)

Repeatable for Credit: No

Bioethical issues facing U.S. families. Selected issues provoke deep and troubling questions that will be addressed from a multidisciplinary perspective through readings, student-led discussion, lectures, and case reviews.

HLTH-350 Prevention and Care of Athletic Injuries

(3 cr.)

Repeatable for Credit: No

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

Prerequisites: take HWF-340 and BIO-234

HWF-225 Structural Kinesiology

(3 cr.)

Repeatable for Credit: No

Musculoskeletal anatomy as it applies to human movement as well as basic kinesiological concepts. Muscle and bone identification as well as joint function and structure.

HLTH-365 Physiology of Exercise

(3 cr.)

Repeatable for Credit: No

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: take BIO-132

HWF-275 Lifespan Health, Wellness and Fitness

(3 cr.)

Repeatable for Credit: No

Understanding the importance of a healthy lifestyle throughout the lifespan. Examination of health, history, medications, culture, ages, lifestyles, predisposed health conditions, injury/physical challenges, and the individual's goals/objectives.

HWF-322 Health and Fitness Assessment

(3 cr.)

Repeatable for Credit: No

Health and fitness evaluation, theory and practice. Cardiorespiratory, body composition, musculoskeletal screens, flexibility, balance, power and agility evaluation.

Prerequisites: take BIO-234 & HWF 225

HWF-348 Stress Assessment and Intervention

(3 cr.)

Repeatable for Credit: No

Theory and methods related to stress interpretation, recognition and intervention. Developing skills necessary for identifying stressors and applying appropriate intervention techniques that will lead to a healthy lifestyle. Designing prescription plans for individual and groups.

HWF-418 Administration of Strength Training and Conditioning

(4 cr.)

Repeatable for Credit: No

Exercise science and its application to program design, implementation, and evaluations. Preparation for the National Strength and Conditioning Association (NSCA) and the Certified Strength and Conditioning Specialist (CSCS) examinations.

Prerequisites: take BIO-234

- PE-1XX Any 100 level course in this department (1 cr.)

PE-201 Wellness and Social Responsibility

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Dimensions of wellness including physical, intellectual, environmental, social, spiritual and emotional health. Assess own health, create healthy lifestyle, current trends, risks vs. benefits. Social responsibility of health-individual and society. Discuss health and ethical correlated issues.

PE-205 Lifelong Wellness

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Lifelong wellness through the application of healthy lifestyle choices, education and physical activity with a focus on cross-disciplinary issues, ethical reasoning and social responsibility.

PSYC-120 Psychology of Adjustment

(3 cr.)

Repeatable for Credit: No

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

PSYC-333 Drugs and the Brain

(3 cr.)

Repeatable for Credit: No

Comparison of psychoactive drug classes, including drugs used for treatment of psychological disorders, recreational drugs, and illegal drugs, with focus on brain and behavior. Evaluation of role of psychological, biological, and sociological factors in drug use and abuse.

Prerequisite: Take PSYC-110

PSYC-335 Motivation and Emotion

(3 cr.)

Repeatable for Credit: No

An experimentally oriented introduction to the fundamental principles of motivation and emotion.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

PSYC-371 Introduction to Health Psychology

(3 cr.)

Repeatable for Credit: No

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies.

Prerequisites: must have 10 credits in PSYC courses

PSYC-377 Consumer Psychology

(3 cr.)

Repeatable for Credit: No

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Prerequisite: Take PSYC-110

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

REHAB-320 Rehabilitation and Chemical Dependency

(3 cr.)

Repeatable for Credit: No

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

SOC-291 Sociology of Health and Illness

(3 cr.)

Racial and Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Sociological approaches to health and illness, both domestically and globally, with special emphasis on race and health. Topics include the social distribution of illness; health disparities across race/class/gender; global comparisons in the health of populations; the social construction of illness; the history and structure of health care systems and institutions; and various historical and contemporary health care debates. Health and illness will be considered throughout in terms of social justice and responsibility.

History Minor

Department of Social Sciences

Program Requirements (24 credits)

Surveys (6 credits)

Choose two of the following courses:

HIST-120 Early United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War.

HIST-121 Modern United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War.

HIST-130 Greeks, Romans and Barbarians: The Uses and Misuses of Our Global Past

(3 cr.)

Global Perspective, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cinematic, artistic, literary, and historical representations of Greek, Roman and medieval history. Diverse cultures, ethnicities, languages, and religions that wrote the story of the Mediterranean world. Comparison of the factual history of these peoples and regions with the misrepresentation in modern media and popular entertainment.

HIST-140 Western Civilization

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

HIST-141 Western Civilization

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of Western civilization from Reformation to present.

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

United States (3 credits)

Choose one of the following courses:

HIST-321 United States Women's History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity, class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

HIST-322 African-American History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Social, cultural, economic and political history of African-Americans, with special focus on the United States.

HIST-323 American Immigration and Ethnic History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

American immigration and ethnic history from the nation's colonial roots to the present. Conceptualization of immigration and ethnicity in historical perspective; the immigration experience; interaction with and responses of the established native populations to the arrival of diverse others; continuing issues of immigration and ethnicity in a historical perspective.

Must be Junior level or higher

HIST-340 Constructed Identities: History of Race, Ethnicities and Mixed-Race Peoples

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination and analyzes the history of mixed-race and multi-ethnic identities and categories in what becomes the United States with comparisons to other American nations. First Nations, Hispanic, African-American, and Asian-American peoples from pre-contact

through present day, especially the policing of identities and categories and the mediation of "authentic" identity in a raced and gendered historical context.

Must be Sophomore level or higher

HIST-391 History of Social Science and Race

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

History of social science and its applications, especially focused on ideas about race. Themes include: development of theories and methods; relationships between knowledge and applications; behavioral and normative diversity of cultural and other groupings; changing beliefs about race and ethnicity.

Regional (3 credits)

Choose one of the following courses:

HIST-360 Asian History

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world.

HIST-380 Latin American History

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Political, social and economic history of Middle and South America, pre-Columbian to present.

HIST-392 History of Mad Science

(3 cr.)

Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Moral execution of scientific methods by exploring important cases of wrongdoing. Themes include ethical responsibilities at each step in the scientific process; examples of misbehavior in the history of science; recent examples of controversial research; contemporary strategies for preventing unethical science.

Global (3 credits)

Choose one of the following courses:

HIST-230 Sexualities in Historical and Social Perspective

(3 cr.)

Racial & Ethnic Studies Category B, Cross-disciplinary Issues

Repeatable for Credit: No

Sociology and history of sexual identities and categories and their uses to justify public policy; the normative and institutional context of how power is exercised in relation to sexuality, especially the stratification of society based on sexuality. Contemporary controversies such as gay marriage and other civil rights issues.

HIST-290 Words, Images, Sounds and the Projection of Global Culture

(3 cr.)

History, Contemporary Issues

Repeatable for Credit: No

Ways in which traditional historical and anthropological formats have been impacted by new forms of visual media. An appreciation of new techniques in historical and anthropological analysis and practical experience in multimedia presentations of important global questions.

HIST-311 Women and War: A Global Perspective in the Modern Era

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines the lives and roles of women in conflicts from 1789 to the present during wars in Europe, Africa, Asia, and Latin America with minor focus on the United States.

HIST-335 World War II: An Ethnic and Global History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

Examine World War II through exploration of ethnicity and race both in the United States and abroad.

Must be Sophomore level or higher

HIST-377 History of Ideas in the Age of Technology

(3 cr.)

Global Perspective, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Survey of the important twentieth-century thinkers in film, literature, psychology, physics, statistics and philosophy who have assessed the impact of technology on individuality, creativity and potential for ethical engagement around the globe.

HIST-390 Modern History of Science and Technology

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines a global history of science and technology. Themes include: scientific theories and methods within their intellectual contexts; relationships between science, technology, and society; interactions between cultural groups (Western; non-Western) as impacted by science and technology; impacts of science and technology on race, gender, and other groups.

Methods (3 credits)

3 credits required for History Teaching minor.

HIST-460 History Methods

(2 cr.)

Repeatable for Credit: No

Historiography and application of the historical method, including the study of teaching methods, instructional materials, and evaluation techniques.

History minors only

Electives (6 credits)

Two additional history courses are required. See advisor for course list.

History Teaching Minor

Department of Social Sciences

Program Requirements (24 credits)

Surveys (6 credits)

Choose two of the following courses:

HIST-120 Early United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War.

HIST-121 Modern United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War.

HIST-130 Greeks, Romans and Barbarians: The Uses and Misuses of Our Global Past

(3 cr.)

Global Perspective, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cinematic, artistic, literary, and historical representations of Greek, Roman and medieval history. Diverse cultures, ethnicities, languages, and religions that wrote the story of the Mediterranean world. Comparison of the factual history of these peoples and regions with the misrepresentation in modern media and popular entertainment.

HIST-140 Western Civilization

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

HIST-141 Western Civilization

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of Western civilization from Reformation to present.

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

United States (3 credits)

Choose one of the following courses:

HIST-321 United States Women's History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity, class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

HIST-322 African-American History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Social, cultural, economic and political history of African-Americans, with special focus on the United States.

HIST-323 American Immigration and Ethnic History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

American immigration and ethnic history from the nation's colonial roots to the present. Conceptualization of immigration and ethnicity in historical perspective; the immigration experience; interaction with and responses of the established native populations to the arrival of diverse others; continuing issues of immigration and ethnicity in a historical perspective.

Must be Junior level or higher

HIST-340 Constructed Identities: History of Race, Ethnicities and Mixed-Race Peoples

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination and analyzes the history of mixed-race and multi-ethnic identities and categories in what becomes the United States with comparisons to other American nations. First Nations, Hispanic, African-American, and Asian-American peoples from pre-contact through present day, especially the policing of identities and categories and the mediation of "authentic" identity in a raced and gendered historical context.

Must be Sophomore level or higher

HIST-391 History of Social Science and Race

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

History of social science and its applications, especially focused on ideas about race. Themes include: development of theories and methods; relationships between knowledge and applications; behavioral and normative diversity of cultural and other groupings; changing beliefs about race and ethnicity.

Regional (3 credits)

Choose one of the following courses:

HIST-360 Asian History

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world.

HIST-380 Latin American History

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Political, social and economic history of Middle and South America, pre-Columbian to present.

HIST-392 History of Mad Science

(3 cr.)

Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Moral execution of scientific methods by exploring important cases of wrongdoing. Themes include ethical responsibilities at each step in the scientific process; examples of misbehavior in the history of science; recent examples of controversial research; contemporary strategies for preventing unethical science.

Global (3 credits)

Choose one of the following courses:

HIST-230 Sexualities in Historical and Social Perspective

(3 cr.)

Racial & Ethnic Studies Category B, Cross-disciplinary Issues

Repeatable for Credit: No

Sociology and history of sexual identities and categories and their uses to justify public policy; the normative and institutional context of how power is exercised in relation to sexuality, especially the stratification of society based on sexuality. Contemporary controversies such as gay marriage and other civil rights issues.

HIST-290 Words, Images, Sounds and the Projection of Global Culture

(3 cr.)

History, Contemporary Issues

Repeatable for Credit: No

Ways in which traditional historical and anthropological formats have been impacted by new forms of visual media. An appreciation of new techniques in historical and anthropological analysis and practical experience in multimedia presentations of important global questions.

HIST-311 Women and War: A Global Perspective in the Modern Era

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines the lives and roles of women in conflicts from 1789 to the present during wars in Europe, Africa, Asia, and Latin America with minor focus on the United States.

HIST-335 World War II: An Ethnic and Global History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

Examine World War II through exploration of ethnicity and race both in the United States and abroad.

Must be Sophomore level or higher

HIST-377 History of Ideas in the Age of Technology

(3 cr.)

Global Perspective, Arts and Humanities - History, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Survey of the important twentieth-century thinkers in film, literature, psychology, physics, statistics and philosophy who have assessed the impact of technology on individuality, creativity and potential for ethical engagement around the globe.

HIST-390 Modern History of Science and Technology

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines a global history of science and technology. Themes include: scientific theories and methods within their intellectual contexts; relationships between science, technology, and society; interactions between cultural groups (Western; non-Western) as impacted by science and technology; impacts of science and technology on race, gender, and other groups.

Methods (3 credits)

3 credits required for History Teaching minor.

Electives (6 credits)

Two additional history courses are required. See advisor for course list.

Hospitality Security and Risk Management Minor

The minor in Hospitality Security and Risk Management is intended to provide additional knowledge needed to manage security, safety and risk issues within the hospitality and service industries. The broad range of quality courses enables students to develop skills and increase knowledge relevant to security, safety and risk management.

Required Core (17 credits)

HT-454 Security and Risk Management for the Hospitality Industry

(3 cr.)

Repeatable for Credit: No

Advanced investigation of security and risk management within hospitality/service industries.

HT-460 Hospitality Industry Law and Liability

(3 cr.)

Repeatable for Credit: No

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

HT-461 Hospitality Employee Relations

(3 cr.)

Repeatable for Credit: No

History and legal strategies and tactics in dealing with hospitality employees in both union and non-union settings.

HWF-340 Community CPR, Automatic External Defibrillation and First Aid

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

American Red Cross Certification - Adult, child and infant CPR, automated external defibrillator use, first aid; personal safety, accident prevention knowledge; sudden illness recognition; respond/administer emergency techniques; social responsibility, ethical reasoning, first aid and emergency situations. A special course fee applies.

PSYC-379 Public Relations

(2 cr.)

Repeatable for Credit: No

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

PM-280 Hospitality Facilities Management

(3 cr.)

Repeatable for Credit: No

Applied perspectives on responsible and efficient management of physical plant and equipment demands to achieve maximum guest and tenant satisfaction at acceptable operating costs.

Must be Sophomore level or higher

Human Development and Family Studies Minor

Department of Human Development and Family Studies

Program Requirements (22 credits)

Required Courses (9 credits)

HDFS-115 Healthy Couple Relationships

(3 cr.)

Repeatable for Credit: No

Intimate relationship development; characteristics of diverse committed relationships. Elements of healthy relationships and issues leading to relationship dissolution. topics include: self-awareness, communication, love, commitment, sexualities, sexual decision-making, partner selection, and relationship dysfunctions. Realistic expectations about intimate relationships.

HDFS-255 Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

HDFS-215 Introduction to Families

(3 cr.)

Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Understand family science discipline and families from a **family science perspective**. Examine "family" and apply theoretical frameworks for studying families. Emphasis on internal family system functioning, intergenerational dynamics and *family as a changing unit over time*. Examine family transitions, stages, and developmental tasks over the life course.

Selectives (13 credits)

Additional departmental offerings to complete 22 credits will be selected.

Human Physiology Minor

Biology Department

Program Requirements (20 credits)

Core Courses (10 credits)

BIO-220 Physiology of Disabilities

(3 cr.)

Repeatable for Credit: No

Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders.

Prerequisites: BIO-132 or BIO-234

HLTH-365 Physiology of Exercise

(3 cr.)

Repeatable for Credit: No

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: take BIO-132

BIO-234 Physiology and Anatomy

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO 132, BIO 135, BIO 136, or CHEM 115 or CHEM 135

BIO-132 Human Biology: Our Bodies, Our Health, Our World

(4 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

A tour of the human body from molecules and cells to tissues and organ systems. Connects anatomy and physiology to health and disease. Special attention paid to the impact of personal choices on health and the intersection between health and society.

BIO-362 Advanced Physiology

(3 cr.)

Repeatable for Credit: No

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisites: C or better in BIO-234

Selective Courses (10 credits)

BIO-235 Molecular Cell Biology II

(4 cr.)

Repeatable for Credit: No

Examination of molecular and cellular basis of eukaryotic life forms. Focus on bioenergetics, gene expression, signal transduction, and cancer. Laboratory manipulation of continuous eukaryotic cell lines.

Prerequisites: take BIO 136 and CHEM-136

BIO-336 Infection and Immunity

(4 cr.)

Repeatable for Credit: No

Examination of the human immune system and infectious diseases including past epidemics as well as emerging infections in society.

Prerequisites: Take either BIO-136 or BIO-306 or CHEM-311

BIO-358 Introductory Pharmacology

(2 cr.)

Repeatable for Credit: No

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination.

Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system.

Prerequisites: take BIO-132, BIO-234 or CHEM-135

BIO-360 Introduction to Neuroscience

(3 cr.)

Repeatable for Credit: No

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisites: BIO-132 or BIO-234

BIO-400 Special Topics in Biotechnology

(1-2 cr.)

Repeatable for Credit: Yes

Topics of current or historical importance in the understanding of biotechnology. Designated topics announced prior to start of semester. May be repeated for elective credit.

Must be Junior level or higher

BIO-425 Proteomics

(3 cr.)

Repeatable for Credit: No

State-of-the-art training in proteomics. Solutions to biological research questions and operation of proteomics equipment such as chromatography devices and mass spectrometers.

Instructor's Consent Required

Prerequisite: take BIO-235 and CHEM-311 (co-enrollment in CHEM-311 is acceptable).

BIO-434 Cadaver Dissection

(3 cr.)

Repeatable for Credit: No

Detailed regional exploration, through cadaver dissection, of human anatomical structures with emphasis on appendages, thorax and abdomen. Identification of muscles, blood vessels, nerves and organs.

Prerequisites: Senior status and a B or higher in BIO-234 or permission of instructor

CHEM-311 Biochemistry

(4 cr.)

Repeatable for Credit: No

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisite: take CHEM-201

HWF-225 Structural Kinesiology

(3 cr.)

Repeatable for Credit: No

Musculoskeletal anatomy as it applies to human movement as well as basic kinesiological concepts. Muscle and bone identification as well as joint function and structure.

Note(s):

** These courses must be approved by the minor adviser.*

A minimum grade of "C" (2.0) is required in all courses.

Human Resource Management Minor

Department of Psychology

Program Requirements (19-21 credits)

Core courses (12 credits)

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

PSYC-485 Recruitment & Selection of Human Resources

(3 cr.)

Repeatable for Credit: No

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development.

Prerequisite: take PSYC 381 or PSYC-382

PSYC-403 Management of Employee Reward Systems

(3 cr.)

Repeatable for Credit: No

Issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives

and benefits.

Prerequisite: take PSYC-382

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Selective Courses (7-9 credits)

** not available CI*

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-415 Inclusivity in Leadership

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

An examination of leadership dynamics for but not limited to women, people of color and other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations.

Prerequisites: take SOC-110 and either INMGT-400 or BUMGT-304

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

PSYC-379 Public Relations

(2 cr.)

Repeatable for Credit: No

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

PSYC-381 Psychology in the Workplace

(3 cr.)

Repeatable for Credit: No

Application of psychological principles to the workplace, with emphases on assessment of cognitive, physical and interpersonal abilities, employee selection, training and development methods, and development of organizational methods for improved motivation, job satisfaction, leadership and organizational effectiveness.

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

SOC-375 Sociology Of Minority Groups

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

Information Security Management Minor

Information Security Management minor will provide students from various UW-Stout majors a deeper understanding of computer information security, which is one of the most urgent issues nowadays, through the integration of applied learning, helping students to grow and serve in a global society.

Program Requirements (27 credits)

Foundation Courses (13 credits)

These courses are required.

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

CNIT-301 Linux Systems & Network Administration

(3 cr.)

Repeatable for Credit: No

A technical overview of the Linux operating system, including: hands-on experience with commands, files, services and tools. Topics include basic Linux commands, files and directories, text editing and scripting; installation and maintenance of Linux servers in the corporate world; installation and configuration of services and applications of Linux servers.

Prerequisite: take either ITM/CNIT-133 OR CS-144

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

Core Courses (6-15 credits)

A minimum of two classes are required from the list below:

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

CNIT-484 Advanced Network Security and Auditing

(3 cr.)

Repeatable for Credit: No

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: take CNIT 301 , CNIT-383, and either CNIT 361 or CS 480

CS-480 Introduction to Computer Security

(3 cr.)

Repeatable for Credit: No

Computer security problems and challenges, relationship between policy and security, cryptography, implementation of requirements imposed by policies, use of standards to ensure that the system will meet its goals, system vulnerabilities analysis and detection, intrusion detection, application of desired policy and procedures to support the policy.

Prerequisite: take CS 244

ICT-401 Information Technology Policy and Audit

(3 cr.)

Repeatable for Credit: No

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take ICT-305 and BUACT-206

MSCS-380 Cryptography

(3 cr.)

Repeatable for Credit: No

Classical and modern encryption methods, including both public-key and symmetric-key cryptosystems; elementary number theory; digital signature schemes and hash functions; introduction to (and countermeasures for) number-theoretic and algebraic cryptanalysis; discrete logarithms; applications to information assurance and cyber-security.

Prerequisite: take MATH 370 and CS 145

Interdisciplinary Courses (0-9 credits)

Choose from the list below, to complete the minimum of 27 credits required for the minor:

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

CNIT-361 Workstation And Server

(3 cr.)

Repeatable for Credit: No

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisite: take CNIT 133

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-391 Wireless Systems

(3 cr.)

Repeatable for Credit: No

Wireless networking combining Radio Frequency (RF) and Local Area Networking (LAN) technology fundamentals. Basic concepts and building blocks or the convergence between RF and networking technologies. Technologies and tasks vital to installing, managing, and supporting wireless networks.

Prerequisite: take CNIT-134

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

CS-324 Database Systems Manipulation and Design

(3 cr.)

Repeatable for Credit: No

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases.

Prerequisite: take CS-244

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

Journalism Minor

Department of English and Philosophy

Program Requirements (19 credits)

Required Courses (16 credits)

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

GCOM-141 Graphic Communications

(3 cr.)

Repeatable for Credit: No

Overview of the cross-media graphics field and careers. Hands-on introduction to the graphics process from design through delivery. Use of graphics software to design and develop projects for cross-media, multi-channel distribution - print, web, email and mobile. Printing processes, bindery and finishing operations, and specifying printed products and non-print graphic services.

ENGL-125 Professional Writing Elements of Style

(3 cr.)

Repeatable for Credit: No

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisite: take either ENGL 101 or ENGL 111

ENGL-225 Editing Processes and Practices

(3 cr.)

Repeatable for Credit: No

Comprehensive editing, copy editing, proofreading, and style selection; review of Standard Written English grammar and usage.

Prerequisites: take ENGL-102 or ENGL-112 or ENGL-113; and take ENGL-125

ENGL-207 Writing for the Media

(3 cr.)

Repeatable for Credit: No

Theory and practice of writing for the media.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-210 Journalism Practicum

(1 cr.)

Repeatable for Credit: Yes

Work on regularly published newspaper and submit articles for evaluation and publication.

Department Consent

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

Writing Selectives (3 credits)

Select 3 credits from the following:

ENGL-215 Foundations of Technical Communication

(3 cr.)

Repeatable for Credit: No

Overview of major writing and documentation forms and conventions used in technical communication, including document design strategies, technical reports, and other professional texts.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-218 Mass Communication: Effects of the Technology on Society

(3 cr.)

Repeatable for Credit: No

The ideological and social implications of mass communication technology.

Prerequisite: take either ENGL-101 or ENGL-111

ENGL-245 Creative Writing

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Introduction to creative writing with an ethics component in four genres: Poetry, fiction, drama, and creative nonfiction.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-246 Informational Writing

(3 cr.)

Repeatable for Credit: No

Introduction to creative writing with an ethics component in four genres: Poetry, fiction, drama, and creative nonfiction.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-247 Critical Writing

(3 cr.)

Communication Skills - Writing

Repeatable for Credit: No

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-312 Transnational Professional Communication

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the global aspects of professional communication, including translation and cross-cultural visual communication. Apply cultural models in order to understand and address the needs of users and colleagues from different cultural and linguistic backgrounds.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-330 Feature Writing

(3 cr.)

Repeatable for Credit: No

Plan, research and create feature articles for newspapers, magazines and online publications; develop research tools and writing skills; observe ethical and legal considerations in writing.

Prerequisite: take ENGL-207

ENGL-340 The Structure of English

(3 cr.)

Repeatable for Credit: No

New analytic and descriptive methods applied to modern English.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-350 Digital Storytelling

(3 cr.)

Repeatable for Credit: No

Create and critique visual and digital stories and the deployment of digital and visual media tools to tell a variety of stories from diverse social and cultural contexts.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-385 Document Design

(3 cr.)

Repeatable for Credit: No

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles.

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

ENGL-418 Convergent Communication

(3 cr.)

Repeatable for Credit: No

Defining and analyzing convergent medial practices in professional communication disciplines, industries and trades; exploring how convergence of print, video/audio and online media has influenced professional writing.

Prerequisite: take ENGL-218

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance.

ENGL-430 Writing for Content Management

(3 cr.)

Repeatable for Credit: No

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-435 Writing Technical Manuals

(3 cr.)

Repeatable for Credit: No

Production of a technical manual--planning procedure, collecting information, analyzing audience, writing and field testing.

Prerequisite: take either ENGL-215 or ENGL 320

BUMKG-370 Integrated Marketing Communications

(3 cr.)

Repeatable for Credit: No

Fundamentals of integrated marketing communications; integration of elements of the promotional mix, including advertising, sales promotions, public relations, online marketing, social media and other modern methods of marketing communication.

Prerequisites: take BUMKG-330

PSYC-379 Public Relations

(2 cr.)

Repeatable for Credit: No

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

GCOM-445 Publication Production

(3 cr.)

Repeatable for Credit: No

Cross-discipline work teams experience integration of creative, technical and managerial skills to design, plan, schedule, produce and distribute print and digital versions of a publication.

Prerequisite: take GCOM 351

Materials Science Minor

Department of Chemistry and Physics

Program Requirements (20 credits)

Take at least one course from each of the following required course categories to complete the required 20 credits.

Introductory Courses

NANO-101 Explorations in Nanotechnology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Discussion of the main concepts in nanoscience with an exploration of societal and environmental impacts.

NANO-110 Introduction to Vacuum Technology

(2 cr.)

Repeatable for Credit: No

Principle concepts associated with vacuum technology and the critical components of a vacuum system. Basic vacuum system functions and characteristics. Lab course with a model vacuum system.

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

Fundamentals

CHEM-325 Chemistry of Polymers

(4 cr.)

Repeatable for Credit: No

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135

CHEM-331 Quantitative Analysis

(4 cr.)

Repeatable for Credit: No

Theory and practice of gravimetric, titrimetric, potentiometric and spectrophotometric methods of chemical analysis. Training in precision laboratory techniques and statistical treatment of data for quality assurance.

Prerequisite: take CHEM-136

CHEM-341 Chemistry of Materials

(4 cr.)

Repeatable for Credit: No

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135

ENGR-294 Mechanics of Materials

(3 cr.)

Repeatable for Credit: No

Normal and shear stresses and strains. Stresses and deformations in objects subject to axial, torsional, and flexural loadings. Shear and bending moment diagrams. Stress transformations and principle stresses.

Prerequisite: take PHYS-291

PHYS-313 Introduction to Quantum Mechanics: A Modern Physics Approach

(3 cr.)

Repeatable for Credit: No

Introduction to quantum mechanics and its applications to atomic structure, molecular bonds, lasers, properties of condensed matter, and the structure of the nucleus.

Prerequisites: take PHYS 282

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal

(3 cr.)

Repeatable for Credit: No

Technical exploration of paper, wood, adhesives and metal used in packaging worldwide. Material properties and international production processes, applications, environmental impacts of paper, wood, adhesives, and metal.

Prerequisites: take PKG-150 and CHEM-135

PKG-220 Packaging Materials: Polymers and Glass

(3 cr.)

Repeatable for Credit: No

Technical exploration of polymers and glass used for packaging worldwide. Material properties, production processes, applications, environmental impacts of polymers and glass.

Prerequisites: take PKG-150 and CHEM-135, BS Packaging students only

Materials Analysis, Processing and Manufacturing

CHEM-435 Instrumental Methods of Analysis

(4 cr.)

Repeatable for Credit: No

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisite: take CHEM-331

ETECH-252 Material Removal And Forming Processes

(3 cr.)

Repeatable for Credit: No

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications.

Prerequisite: take either ETECH 100, ETECH 110, OR ETECH 150

NANO-230 Characterization Methods of Nanomaterials

(3 cr.)

Repeatable for Credit: No

Laboratory based course that covers basic techniques and theory of modern characterization methods of nanomaterials. Techniques include: electron microscopy, scanning probe microscopy, diffraction spectroscopy, and emission spectroscopy.

Prerequisites: take CHEM 135 or NANO 101

PLE-360 Testing and Analysis of Plastics

(3 cr.)

Repeatable for Credit: No

Mechanical, rheological, and thermal properties of plastics. Theoretical principles are combined with laboratory experimentation to identify and characterize plastics in order to evaluate how the properties relate to processing and part performance.

Prerequisites: take ENGR-275, ENGR-294, and CHEM-325

Materials Engineering

AEC-458 Structural Systems--Wood and Steel

(3 cr.)

Repeatable for Credit: No

Analysis, selection, and delineation of wood and steel structural components and systems in buildings.

Prerequisites: Take PHYS-321 and earn a C or better

AEC-459 Structural Systems-Concrete And Masonry

(3 cr.)

Repeatable for Credit: No

Analysis, selection, and delineation of concrete and masonry structural components and systems in buildings.

Prerequisites: Take AEC-458 and earn a C or better

ENGR-315 Metallurgy

(3 cr.)

Repeatable for Credit: No

Properties of crystalline solids, mechanical behavior, phase diagrams, iron-carbon diagram, metallurgical structure, diffusion, phase transformation and heat treatment. Processing, properties, and applications of ferrous and non-ferrous alloys.

Prerequisite: take CHEM 341

NANO-301 Nanostructures

(3 cr.)

Repeatable for Credit: No

Introduction to nanostructured materials, theory of processes to design materials with nanostructure, and properties and behavior of nanostructured materials.

Prerequisites: take NANO 230

Advanced Materials Science

CHEM-321 Physical Chemistry

(4 cr.)

Repeatable for Credit: No

Foundations of thermodynamics and kinetics. Topics include laws of thermodynamics, states of matter and transformations, equilibrium, Gibbs free energy, prediction of spontaneous reactions, reaction rates, rate laws, and transition states.

Prerequisite(s): take CHEM 136 and MATH 153 or MATH 156

NANO-401 Nanotechnology Applications

(3 cr.)

Repeatable for Credit: No

Review of current nanotechnology applications including societal effects.

Prerequisite: take NANO 230 and CHEM 341

PHYS-427 Solid State and Condensed Matter Physics

(3 cr.)

Repeatable for Credit: No

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, energy bands and gaps, diffraction.

Prerequisites: take PHYS-282

Note(s):

As background for the materials science minor, it is recommended that NANO 101 be selected as coursework for CISS or SRER of your general education requirements.

Mathematics Non-teaching Minor

Program Requirements (22 credits)

Required Courses

Select one option:

Option 1:

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

Option 2:

MATH-156 Calculus and Analytic Geometry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Equivalent to MATH 153 and MATH 154.

Prerequisite: Math Placement Level 4 or completion of MATH-121.

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

Selectives

Student may select up to 6 credits from Group I:

CS-141 Introduction to Programming

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Solving problems using computer programming. Input/output, user interface, objects, events, flow of control, functions, arrays.

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

STAT-320 Statistical Methods

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages. Students may incur incidental expenses for software.

Prerequisite: Math Placement or MATH-120

Note(s):

The course STAT 320 may not be included if either STAT 331 or STAT 332 is selected from Group II.

Students must select 9-14 credits from Group II:

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

STAT-331 Probability and Mathematical Statistics I

(3 cr.)

Repeatable for Credit: No

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, Poisson, normal, and gamma distributions.

Prerequisites: take MATH-154 or MATH-157. Prerequisite or concurrent enrollment in MATH-158

STAT-332 Probability and Mathematical Statistics II

(3 cr.)

Repeatable for Credit: No

Point estimation. Properties of point estimators: unbiasedness, efficiency, consistency, sufficiency. The method of maximum likelihood. Basic concepts of interval estimation and hypothesis testing. Inference in one-sample and two-sample problems. Simple linear regression analysis; the method of least squares. Goodness-of-fit tests. Analysis of categorical data.

Prerequisite: take STAT-331

MSCS-280 Graph Theory with Applications in Computer Science

(3 cr.)

Repeatable for Credit: No

Principles of graph theory, computer representation of graphs, properties of general graphs, structure and properties of special graphs, flow networks, and computer applications of graph theory.

Prerequisites: Take CS-145 and take either MATH-180 or MATH-270

MSCS-446 Numerical Analysis I

(3 cr.)

Repeatable for Credit: No

Theory and applications of numerical methods for linear algebra, non-linear equations and polynomial interpolation.

Prerequisites: take MATH-158, MATH-275 and CS-145

MSCS-447 Numerical Analysis II

(3 cr.)

Repeatable for Credit: No

Theory and applications of numerical methods for approximation, numerical integration and differentiation, differential equations, and Fourier analysis.

Prerequisites: take MSCS-446 and MATH-255

MATH-158 Calculus III

(3 cr.)

Repeatable for Credit: No

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisite: take MATH-154 or MATH-157

MATH-250 Differential Equations with Linear Algebra

(3 cr.)

Repeatable for Credit: No

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisite: take MATH-154 or MATH-157

MATH-255 Differential Equations

(3 cr.)

Repeatable for Credit: No

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

Prerequisites: take either MATH-154 or MATH-157, and take MATH-275

MATH-262 Modern Geometry

(3 cr.)

Repeatable for Credit: No

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-275 Linear Algebra

(3 cr.)

Repeatable for Credit: No

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-450 Real Analysis I

(3 cr.)

Repeatable for Credit: No

Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions.

Prerequisite: take MATH-154 or MATH-157

MATH-451 Real Analysis II

(3 cr.)

Repeatable for Credit: No

Continuation of MATH 450; differentiation, integration, infinite series.

Prerequisite: take MATH-450

MATH-460 Complex Variables with Applications

(3 cr.)

Repeatable for Credit: No

Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues.

Prerequisite: take MATH-158

Note:

Both the teaching and non-teaching minors require a grade point of 2.0 or better in all courses applied to the minor.

Mathematics Teaching Minor

Department of Mathematics, Statistics and Computer Sciences

Program Requirements (27 credits)

Twenty-two credits must be in the discipline and two credits in a teaching practicum.

Choose one option:

Option 1:

STAT-330 Probability and Statistics for Engineering and the Sciences

(3 cr.)

Repeatable for Credit: No

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisite: take MATH-154 or MATH-157

Option 2:

STAT-331 Probability and Mathematical Statistics I

(3 cr.)

Repeatable for Credit: No

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, Poisson, normal, and gamma distributions.

Prerequisites: take MATH-154 or MATH-157. Prerequisite or concurrent enrollment in MATH-158

STAT-332 Probability and Mathematical Statistics II

(3 cr.)

Repeatable for Credit: No

Point estimation. Properties of point estimators: unbiasedness, efficiency, consistency, sufficiency. The method of maximum likelihood. Basic concepts of interval estimation and hypothesis testing. Inference in one-sample and two-sample problems. Simple linear regression analysis; the method of least squares. Goodness-of-fit tests. Analysis of categorical data.

Prerequisite: take STAT-331

Required Courses

MATH-153 Calculus I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions.

Equivalent to MATH 156, MATH 157, and MATH 158.

Prerequisite: Math Placement Level 4 or completion of MATH-121. Not open to students with credit in MATH-154, MATH-156, MATH-157, or MATH-158.

MATH-156 Calculus and Analytic Geometry I

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Equivalent to MATH 153 and MATH 154.

Prerequisite: Math Placement Level 4 or completion of MATH-121.

MATH-154 Calculus II

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Equivalent to MATH 156 and MATH 157.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-157 Calculus and Analytic Geometry II

(5 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Equivalent to MATH 153 and MATH 154.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-158 Calculus III

(3 cr.)

Repeatable for Credit: No

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisite: take MATH-154 or MATH-157

MATH-262 Modern Geometry

(3 cr.)

Repeatable for Credit: No

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-275 Linear Algebra

(3 cr.)

Repeatable for Credit: No

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisite: take either MATH-151, MATH-153 or MATH-156

MATH-370 Modern Algebra I

(3 cr.)

Repeatable for Credit: No

A first course in abstract algebra. Basic number theory, groups, subgroups, cyclic groups, permutation groups, factor and product groups, homomorphisms, isomorphisms, and an introduction to rings.

Prerequisites: MATH 154 or MATH 157, MATH 180 or MATH 270, and MATH 275

EDUC-304 Secondary Curriculum Methods and Assessment

(2 cr.)

Repeatable for Credit: No

Discipline-specific curriculum, methods, and assessment procedures for teaching content minors.

Department Consent

Prerequisite: Benchmark I completion

EDUC-305 Student Teaching

(2-16 cr.)

Repeatable for Credit: No

Directed teaching in school setting in subject area consistent with teaching minor or add-on certification. Completion of teacher work sample and portfolio.

Department Consent

Prerequisite: Benchmark II completion

Selectives

Additional courses to complete 27 credits will be selected with advisement.

Choose one option:

Mechanical and Electrical Construction Minor

Construction Department

Program Requirements (22 credits)

Required Courses

AEC-352 Building Mechanical Systems

(3 cr.)

Repeatable for Credit: No

Fundamental theory and application of heating, ventilation, air conditioning, plumbing, and fire suppression systems for buildings. Emphasis on system integration and sustainable topics as related to design, construction and management of mechanical construction scope of work.

Prerequisites: Take AEC-237 and earn a C or better

AEC-353 Building Electrical and Control Systems

(3 cr.)

Repeatable for Credit: No

Fundamental theory and application of the design, layout, and construction of electrical and building control systems. Principles of code, design, construction documents reading, means and methods applied to electrical systems, lighting, building controls, and sustainable topics as related to electrical scope of work.

Prerequisites: Take AEC-237 and earn a C or better

AEC-438 Contract Requirements and Specifications

(3 cr.)

Repeatable for Credit: No

Principles of contract requirements and construction specification organization. Development of basic skills of project manual preparation. Demonstration of role of specifications within the construction process and relationship to other construction contract documents.

Prerequisites: Take ENGL-320

AEC-455 Advanced Mechanical Construction Systems

(3 cr.)

Repeatable for Credit: No

Principles of the design and installation of advanced mechanical systems with an emphasis on industrial construction applications. Related building codes, materials, instrumentation and control systems necessary for the installation and commissioning of advanced mechanical systems.

Prerequisite: take AEC-352

AEC-456 Advanced Electrical Construction Systems

(3 cr.)

Repeatable for Credit: No

Principles of the design and installation of advanced electrical systems in construction. Emphasis on industrial construction applications. Detailed topical coverage of related codes, materials, power generation, instrumentation and control systems necessary for the design, installation and operation of advanced electrical systems.

Prerequisite: take AEC-353

AEC-473 Mechanical and Electrical Construction Management

(3 cr.)

Repeatable for Credit: No

Principles of project management applied to mechanical and electrical construction projects. Organizing, managing and operating a mechanical or electrical specialty contracting firm.

Prerequisites: take AEC-455 and AEC-456

AEC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

RC-388 Construction Safety

(3 cr.)

Repeatable for Credit: No

Overview of construction safety and health, including identification of the most common occupational hazards associated with the construction industry. Emphasis is on evaluating hazards, choosing appropriate controls to protect workers, and developing strategies for implementing these controls into effective management systems.

Military Leadership Minor

Department of Military Science

Program Requirements (21 credits)

Military Science emphasis area (select 6 credits)

MSL-101 Introduction to the Army

(1 cr.)

Repeatable for Credit: No

Students will examine the Army Profession and cover an overview of the US Army. The focus is on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the ROTC program, its purpose in the Army, and advantages for the students.

MSL-102 Foundations of Agile and Adaptive Leadership

(1 cr.)

Repeatable for Credit: No

Discuss the personal development of life skills such as critical thinking, time management, goal setting, communication and how they play a role in the US Army. Understand the personal challenges and competencies that are critical for effective leadership and receive an introduction to the basics of Army tactics and equipment.

MSL-201 Leadership and Decision Making

(2 cr.)

Repeatable for Credit: No

Explores the dimensions of leadership strategies and styles by examining team dynamics and leadership theories. Exercises and discussions in creative thinking and the ability to apply Troop Leading Procedures (TLP) to develop innovative solutions to

problems. The Army Profession is also stressed through leadership forums and a leadership self-assessment.
Instructor's Consent Required

MSL-202 Army Doctrine and Team Development

(2 cr.)

Repeatable for Credit: No

Study focuses on Army doctrine and team development. Army Values, Teamwork, and Warrior Ethos and their relationship to the Law of Land Warfare and philosophy of military service are stressed. The ability to lead and follow is also covered through Team Building exercises. Students apply their knowledge in a hands-on performance-oriented environment.

MSL-301 Training Management and the Warfighting Functions

(3 cr.)

Repeatable for Credit: No

Study, practice, and apply the fundamentals of Army Leadership, Officership, Army Values, Personal Development, and tactics. Develop planning, coordinating, navigating, motivating and leading a mission using OPORD's. Conduct self and peer review of students' abilities and how to improve those leader skills that can develop you into a successful officer.

Instructor's Consent Required

Prerequisites: take MSL 201 and MSL 202

MSL-302 Applied Leadership in Small Unit Operations

(3 cr.)

Repeatable for Credit: No

Discussions on applied leadership in small unit operations. Study, practice, and apply the fundamentals of direct level leadership and small unit tactics at the platoon level for offensive and defensive operations. Emphasis is placed on improving oral and written communication abilities through professional briefings, OPORD production, and mission execution.

Instructor's Consent Required

Prerequisites: take MSL 201, MSL 202 and MSL 301

History emphasis area (select 6 credits, 3 credits must be 300-level or higher)

HIST-120 Early United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War.

HIST-121 Modern United States History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - History

Repeatable for Credit: No

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War.

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

HIST-330 History of World War II

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Causes, conduct and effects of World War II.

HIST-350 History of the Vietnam War

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

American role in the Vietnam War, particularly goals, objectives and dilemmas faced by American policymakers; roles and contributions of American men and women in the military and in civilian society; development and impact of the anti-war movement; and long-term consequences of the war on American culture and society.

HIST-380 Latin American History

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Political, social and economic history of Middle and South America, pre-Columbian to present.

Human Society emphasis area (select 6-8 credits)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and

how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

FREN-201 Intermediate French I

(4 cr.)

Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Vocabulary development through readings and discussion on French and Francophone civilization. History, art, music, short stories and poems, including contemporary culture. Taught in French. Two years H.S. French or FREN-102 required.

PHIL-235 General Ethics

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical valuing process: principal ethical theories and their application to common human problems.

POLS-210 American Government

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

POLS-260 Problems of U.S. Foreign Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Analysis of U.S. foreign policy objectives and decision making from both U.S. and foreign perspectives. Historical and contemporary problems of national defense, relationships with different regions and nations, economic and resource policies, presidential/Congressional authority, intelligence operations, and public opinion.

POLS-270 Introduction to Comparative Government

(3 cr.)

Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

Analysis and comparison of basic political principles, institutions and problems of major Western, Communist and underdeveloped nations; consideration of alternative approaches to political order and change.

POLS-340 International Relations

(3 cr.)

Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems.

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

PSYC-120 Psychology of Adjustment

(3 cr.)

Repeatable for Credit: No

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

SOC-110 Introductory Sociology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Introduction to sociological theories and methods in the study of social groups, interaction, inequality, and institutions. The place of the U.S. in a global context; comparisons of contemporary U.S. society with other societal and historical contexts. Processes of social location and inequalities, especially those pertaining to race/ethnicity.

SOC-225 Social Problems

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological analysis of current social problems in the U.S. and the world.

SPAN-201 Intermediate Spanish I

(3 cr.)

Global Perspective, Communication Skills, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation and recognition of verb tenses. Readings and class discussion based on historical background and contemporary Hispanic life, including Hispanic culture in the United States. Typically appropriate for students that have taken two years of H.S. Spanish or completed SPAN-102.

Prerequisite: Spanish Placement Test or SPAN-102

Leadership and Management emphasis area (select 3 credits)

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330

COUN-405 Helping Skills for the Professional

(3 cr.)

Repeatable for Credit: No

Develop basic helping skills including active listening; problem solving, goal setting, and decision-making; conflict resolution; information giving; assertion skills; and making referrals. Applicable when basic counseling is an appropriate helping response and also in any interpersonal relationship, including people with disability and ethnic diversity issues.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers.

Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

LOG-250 Critical Thinking

(3 cr.)

Repeatable for Credit: No

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies.

LOG-301 Introduction to Logical Thinking

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem-solving strategies based on induction and on categorical and propositional deduction.

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

Performing Arts Minor

Program Requirements (18 credits)

Core Courses (3 credits)

Minimum of 3 credits required; Select from one or more of these repeatable courses. An additional 3 credits may be applied to lower level requirements (below).

MUSIC 264, 266, 267, and 269 and THEA 131 must be taken for credit in order to count towards the minor. Credit will not be retroactively awarded.

MUSIC-264 Jazz Band

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Jazz styles and improvisation from the dance band era to the present. Study and performance of contemporary "big band" jazz. Membership is open to all qualified students. Audition may be necessary. Repeatable for additional credit

MUSIC-266 Concert Band

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership is open to all qualified students. Audition may be necessary.

MUSIC-267 Symphonic Singers

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Advanced choral techniques, reading and analysis of choral music of all types and periods. A special course fee applies.

MUSIC-269 Chamber Choir

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Performance of advanced choral music with and without accompaniment, in a select choral ensemble. Enrollment is by audition only.

THEA-131 Theater Practicum

(1 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions.

Lower Level Courses (9 credits)

MUSIC-120 Music Fundamentals

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Introduction to the elements of music, with a focus on Western musical notation and theory. Notation, application, and practice of basic theory and music analysis skills.

MUSIC-132 Music in Our World

(3 cr.)

Global Perspective, Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Music materials as they pertain to perceptive listening and awareness of cultural identity as defined by music. A survey of Western/American music practice contrasted with other global traditions.

MUSIC-134 Rock Music History

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Characteristics and components: examination of a social music style, people who made the music, and its meaning for different groups in America and abroad.

MUSIC-231 Honors Jazz History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Art History/Music and Theater Appreciation, Cross-disciplinary Issues

Repeatable for Credit: No

American jazz connections to changes in society: jazz origins and characteristics, a development of artists and styles, and a music's reflection of individual expression, race relations, and acceptance by society.

Honors Program Students or GPA 3.0 or better

MUSIC-236 Music in Media

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Music as an art and enhancement to communication in entertainment, marketing, and social environments. How music is used to enhance the visual and the experience, affecting the mental and emotional state of individuals in society.

THEA-200 Stagecraft

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Theatre backstage theory and techniques creating scenery and lighting for theatrical productions. Use of tools and technology in creating technical elements.

THEA-232 Theatre In Our World

(3 cr.)

Global Perspective, Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Development of theater arts from ancient times to present; theatre from around the world; play styles, production methods and audience appreciation; representative plays.

Upper Level Courses (6 credits)

MUSIC-300 Special Topics in Music

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: Yes

Current issues or historical topics related to music. Specific topics will be advertised prior to the semester offered. Course is repeatable up to three times with different topics or issues.

MUSIC-320 Music Theory

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Continuation of MUSIC-120; in-depth study of Western music theory through analysis and ear training.

Prerequisite: take MUSIC 120 or instructor consent

MUSIC-330 Survey of Western Music History

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Significant compositions and composers that shaped Western music. Resulting period style characteristics, developments, and innovations that occurred from the medieval to modern and the role of music in society.

MUSIC 132 , MUSIC 134 , MUSIC 231 or MUSIC 236

MUSIC-350 Digital Sound Studio

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: Yes

Study and application of audio-visual synergy in animations, films, television, games and other time-based multimedia forms.

THEA-300 Special Topics in Theatre

(3 cr.)

Repeatable for Credit: Yes

Current issues or historical topics related to theatre. Specific topics advertised prior to the semester offered. Repeatable up to three times with different topics or issues.

THEA-332 The Directing and Acting Process

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Application of directing and acting methods. Script and character analysis and development. Applying principles of the director/actor relationship.

THEA-337 Design for Theatre

(3 cr.)

Repeatable for Credit: No

Application and development of theatrical design aesthetics and methods. Apply principles of the theatrical collaborative production process.

THEA-340 Multiculturalism and Diversity in American Theatre

(3 cr.)

Racial & Ethnic Studies Category A, Arts & Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Analysis of dramatic literature and theatre artists that reflect the multicultural and diverse landscape of American society through the exploration of race and sexual orientation.

Philosophy Minor

Department of English and Philosophy

Program Requirements (15 credits)

Required Courses (6 credits)

PHIL-235 General Ethics

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical valuing process: principal ethical theories and their application to common human problems.

LOG-301 Introduction to Logical Thinking

(3 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem-solving strategies based on induction and on categorical and propositional deduction.

LOG-250 Critical Thinking

(3 cr.)

Repeatable for Credit: No

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies.

Select 9 credits from the following:

PHIL-201 Introduction to Philosophy

(3 cr.)

Global Perspective, Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation.

PHIL-205 Philosophy of Religion

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Principal philosophical problems in the various dimensions of religious experience and belief.

PHIL-215 Eastern Philosophy

(3 cr.)

Global Perspective, Arts and Humanities - Philosophy

Repeatable for Credit: No

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism.

PHIL-220 Multicultural Philosophy

(3 cr.)

Racial and Ethnic Studies - Category A, Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Philosophical perspectives from historically underrepresented racial/ethnic groups and other cultural identities. Multiculturalism and its impact on the study of philosophy.

PHIL-225 Belief, Knowledge and Truth

(3 cr.)

Arts and Humanities - Philosophy

Repeatable for Credit: No

Justification of rational belief and knowledge and methods used for obtaining them, with particular emphasis on problems of evidence and truth.

Note:

At least six credits in the minor must be taken at UW-Stout. A minimum grade of C is required for each course in the minor with an

overall grade point average of 2.67.

Photography and Video Minor

Department of Apparel and Communication Technologies

Program Requirements (21 credits)

Required Courses (9 credits)

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

PHOTO-310 Introduction to Photographic Lighting

(3 cr.)

Repeatable for Credit: No

Introduction to the essential concepts of lighting for still and moving image photography. Emphasis is on the application and control of natural and artificial light in studio and location photography. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisite: take PHOTO 130

PHOTO-330 Video Production

(3 cr.)

Repeatable for Credit: No

Introduction to essential concepts and techniques of video production. Emphasis is placed on preproduction and preparation for production, writing proposals and treatments, story-boarding and developing a workflow appropriate to the project. Students develop camera operation, audio, lighting, directing, producing and editing skills. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO 130 and a DSLR camera with full manual controls in still and video capture modes is required.

Selectives (9 credits)

Choose three of the following courses.

PHOTO-305 Photo Processes

(3 cr.)

Repeatable for Credit: No

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques. A special course fee applies.

Prerequisite: take PHOTO-204

PHOTO-375 Product Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products. Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required. A special course fee applies.

Prerequisite: take PHOTO 310 and PHOTO 330 . A DSLR camera with full manual control in still and video capture modes is required.

PHOTO-411 Photojournalism and Documentary Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of photojournalism and documentary photography trends and practices. The importance of still and moving images as conveyors of information and influence on public opinion is emphasized. Ethical and moral considerations, freedom of the press and the public's right to know are stressed. A survey of the technical and conceptual aspects of still and moving image photography of manufactured goods and products. Emphasis is placed on photographing studio and table still life sets. The importance of lighting for scale, as well as lighting varied surfaces will be explored. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-412 Nature and Landscape Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of nature and landscape, still and moving image photography trends and practices. Emphasis on the application of appropriate techniques and equipment for field conditions. A special course fee applies. A DSLR camera with full manual controls in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-415 Advertising Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of still and moving image advertising photography trends and practices. The relationship between marketing, design and photography in communicating with target audiences through cross-channel media are stressed. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Prerequisite: take PHOTO-375

PHOTO-421 Architectural and Interior Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of architectural and interior still and moving image photography trends and practices. Emphasis on the application of appropriate techniques and equipment for field/location conditions. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-425 Corporate Communications and Public Relations Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of corporate communications and public relations, still and moving image photography trends and practices. The relationship between marketing, corporate communications and public relations photography in influencing target audience opinion through cross-channel media are stressed. A DSLR camera with full manual control in still and video capture modes is required.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-430 Video/Cinema Practicum

(3 cr.)

Repeatable for Credit: No

Cross discipline teams explore a selected topic(s) through the completion of professional level video/cinema project(s), from concept to distribution digital media.

Prerequisite: take PHOTO 330

PHOTO-441 Fashion and Glamour Photography

(3 cr.)

Repeatable for Credit: No

A survey of the technical and conceptual aspects of fashion and glamour still and moving image photography trends and practices. Emphasis on directing professional/non-professional talent/models and creative support and the importance of concept and design in creating effective images. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Prerequisites: take PHOTO-310 and PHOTO-330

PHOTO-340 History of Photography

(3 cr.)

Repeatable for Credit: No

Survey of the scientific and aesthetic development of photography from its beginnings to the recent practices of photographic technologies in the context of post-modernity. Examine the diversity of styles, techniques, methods, and ideologies of selected photographers focusing on their contributions and influences in advertising, art, fashion, communication technology and pop culture.

ARTH-336 Modern Art

(3 cr.)

Repeatable for Credit: No

The main currents and developments in art from Monet and Cezanne to 1950.

ARTH-337 Art Since 1950

(3 cr.)

Repeatable for Credit: No

Developments in painting and sculpture in Europe and America since 1950.

Prerequisite: take ARTH-224 with a grade of C or better

ARTH-341 History of Film

(3 cr.)

Repeatable for Credit: No

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted filmmakers from around the world.

Required Capstone / Senior Project (3 credits)

PHOTO-495 Professional Portfolio Development

(3 cr.)

Repeatable for Credit: No

Capstone experience for the Applied Photography minor. Students fine tune their direction and concentrate on the area they intend to specialize in their professional career. Students design and produce a portfolio to be evaluated by representative professionals. Standards of professional practice are emphasized.

Prerequisites: 18 credits of MEDIA or PHOTO courses

Physics Minor

Department of Physics

Program Requirements (22 credits)

Required Courses (10 credits)

Select one group from the following:

Group I:

PHYS-241 College Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Theoretical and experimental introduction to physics using algebra, trigonometry and vectors. Topics covered are kinematics, kinetics (i.e. dynamics), forces, energy, momentum, torque, fluid mechanics, thermodynamics and simple harmonic motion.

Prerequisite: take MATH 121 or Math Placement Level 4

PHYS-242 College Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Second semester of a two-semester introductory physics sequence that is algebra-based. Topics covered are waves, sound, electrostatics, circuits, magnetism, optics, and select topics in modern physics.

Prerequisite: take PHYS-241 or PHYS 281

Group II:

PHYS-281 University Physics I

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisite: take either MATH-154 or MATH-157, or may be concurrently enrolled.

PHYS-282 University Physics II

(5 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisite: take PHYS-281 or ENGR-292

Also take (3 credits):

PHYS-329 Atomic and Nuclear Physics

(3 cr.)

Repeatable for Credit: No
Elements of atomic and nuclear physics.
Prerequisites: take PHYS-242 or PHYS-282, and take MATH-154 or MATH-157

Selectives (9 credits)

Take 9 more credits of Physics, at least 6 of which are at the 300-level or higher, as approved by the minor adviser.

Plant Science Minor

Department of Biology

Minor Requirements (20 credits)

Required (5 credits)

BIO-242 Botany

(5 cr.)

Repeatable for Credit: No

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

Plant Science Core (10 credits)

Select a minimum of 10 credits from the courses listed below:

BIO-324 Vascular Plant Taxonomy

(4 cr.)

Repeatable for Credit: No

Plant classification, identification, and evolution. Focus on flowering plant families of the Upper Midwest. Field trips and plant collection required.

Prerequisite: BIO-242

BIO-352 Restoration Ecology

(4 cr.)

Repeatable for Credit: No

The theory and practice of restoring and managing ecological communities. Laboratory emphasis on creating a management plan for a natural area. Weekend field trip(s) may be required.

Prerequisite: take BIO 350

Selectives

Select remaining unique credits from the course list to total 20 credits for the minor.

BIO-141 Plants and People

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary investigation into the global economic and cultural importance of plants, how aspects of plant biology have played historical roles in shaping societies around the world, and the roles of plants in solving future societal problems. A special course fee applies.

BIO-270 Natural History of the Neotropics

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Natural history of neotropical marine and terrestrial systems, including coral reefs and rainforests. Focus on patterns and processes underlying biodiversity of the tropics, including ecological principles, specific adaptations, and taxonomy of tropical biota. Introduction to human cultures of the neotropics and their historical and contemporary impacts on tropical diversity.

BIO-324 Vascular Plant Taxonomy

(4 cr.)

Repeatable for Credit: No

Plant classification, identification, and evolution. Focus on flowering plant families of the Upper Midwest. Field trips and plant collection required.

Prerequisite: BIO-242

BIO-332 Genetics

(4 cr.)

Repeatable for Credit: No

Principles of classic and molecular inheritance as they apply to microbes, plants, animals, and humans. Practical laboratory applications in heritable traits and genetic analysis.

Prerequisites: take BIO 136, BIO 242, or BIO 252

BIO-350 Ecology

(4 cr.)

Repeatable for Credit: No

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO 135, BIO 242, or BIO 252, and take MATH 120 or higher

BIO-355 Entomology

(4 cr.)

Repeatable for Credit: No

Biology of insects and related arthropods, with emphasis on evolution, ecology, behavior, biodiversity, morphology, and systematics.

Laboratory emphasizes identification and collection.

Prerequisites: Take BIO 111, BIO 135, BIO 136, BIO 141, BIO 242, or BIO 252

CHEM-201 Organic Chemistry I

(4 cr.)

Repeatable for Credit: No

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Students may incur incidental expenses for software.

Prerequisite: Take either CHEM-125 or CHEM-135

PHYS-358 Soil Science and Conservation

(4 cr.)

Repeatable for Credit: No

Soil formation and the relationship of its physical, chemical, and biological properties to natural and agricultural ecosystems, with implications for sustainable management.

Prerequisites: Take CHEM-135 and PHYS-258

Project Management Minor

Department of Operations and Management

Program Requirements (20-21 credits)

(The number of credits required depends on the major).

Required Courses

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-475 Advanced Project Management

(3 cr.)

Repeatable for Credit: No

Advanced planning, control, and leadership of technical projects and programs. Topics covered include: project and program justification, project management maturity and methods, multiple project or portfolio management, project management in multinational cultures, virtual project teams, requirements definition, and outsourcing.

Prerequisites: take INMGT-365 or AEC-471. Senior standing.

AEC-470 Construction Estimating II

(3 cr.)

Repeatable for Credit: No

Total concept of construction industry costs. Computer-based estimating systems for construction. Contracting, financing, takeoff, pricing, bid preparation, resource and cost studies, control of costs and database operations.

Prerequisites: Take AEC-370 with a grade of C or better

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

AEC-471 Project Scheduling and Cost Control

(3 cr.)

Repeatable for Credit: No

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques.

Prerequisites: Take AEC-370 with a grade of C or better

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software

application, and management of project constraints for cost, schedule, quality, and customers.
Prerequisite: Junior standing or higher.

BULGL-318 Business Law I

(3 cr.)

Repeatable for Credit: No

Law and ethics relative to businesses including the American legal system, the Constitution, contracts, torts, agency and sale of goods are discussed and analyzed through the use of the Uniform Commercial Code, cases and problems. Examine the influence of technology and globalization on businesses with emphasis on law and business.

Must be Junior level or higher

BULGL-401 Legal Environment of Business

(3 cr.)

Repeatable for Credit: No

Legal influences and the changing relationship of government and industry: regulatory legislation, ethical implications, administrative agencies, national policies and social control.

BULGL-473 Legal Aspects of Construction

(3 cr.)

Repeatable for Credit: No

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker.

COMST-210 Interpersonal Communication

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical and applied approaches to communication in interpersonal relationships. Communication variables and competencies for social interaction in personal and professional contexts.

COMST-308 Business and Professional Speaking

(3 cr.)

Repeatable for Credit: No

Professional communication; projects emphasizing the application of oral presentation skills in business and professional contexts.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-430 Employee Involvement: Work Teams

(2 cr.)

Repeatable for Credit: No

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods.

Must be Senior level or higher

Property Management Minor

Department of Hospitality and Tourism

Program Requirements

25 credits are required.

Prerequisites and Foundations Courses

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

- BULGL-365 Principles of Real Estate (3.00 cr.)

PM-370 Principles of Property Management

(3 cr.)

Repeatable for Credit: No

Management of commercial, multifamily and common interest development property. Employees, management tools, government involvement, client acquisition and tax requirements.

Required Core

PM-358 Ethical Decision Making in Property Management

(3 cr.)

Repeatable for Credit: No

Analysis of ethical decisions in property management. Case studies incorporating major laws impacting the property management industry; codes of ethics of major professional societies in property management.

PM-362 Real Estate Market Analysis and Investment Analysis

(3 cr.)

Repeatable for Credit: No

Analytical tools used for decision making by property managers and the stakeholders they serve. Market and investment analysis and role in providing a financial perspective for the property manager and owner.

Prerequisite: take BUACT-207

PM-371 Commercial/Residential Property Development and Management

(3 cr.)

Repeatable for Credit: No

Exploring factors involved in developing and managing property, both residential and commercial, including undeveloped land. Topics include feasibility studies, financing, appraisal, leases, purchase agreements and management contracts.

Prerequisite: take PM-370

PM-381 Marketing and Leasing Commercial and Residential Property

(3 cr.)

Repeatable for Credit: No

Effective marketing practices, leasing strategies and tactics designed to attract and retain qualified residential and commercial tenants to income producing properties.

Prerequisite: take PM-370

Capstone

PM-470 Seminar In Property Management

(4 cr.)

Repeatable for Credit: No

Capstone course for Property Management. Preparation of a management plan in the context of a functioning marketplace. Students will seek out and write a management plan that meets the format and content standards for professional accreditation.

Prerequisite: take PM-370 and PM-362

Psychology Minor

Department of Psychology

Program Requirements

18 credits are required.

Required Courses (7 credits)

PSYC-110 Introduction to Psychology

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychology as a discipline and an applied science. Scientific methodology applied to behavior and mental processes. Examines learning, memory, perception, motivation, development, individual and group differences, mental health, the physiological and cultural basis for behavior, and applies psychological principles to human experience.

PSYC-190 Psychological Research Methods

(4 cr.)

Repeatable for Credit: No

Introduction to research methods used in the behavioral sciences. Includes laboratory activities and application of methodologies and statistical software to understand and produce research compatible with American Psychological Association standards.

Prerequisite: take PSYC 110

Selectives (11 credits)

Select any PSYC course to fulfill the remaining credits.

Quality Engineering Minor

Go to [minor website](#)

Introduction

The Quality Engineering Minor for Engineering degree seeking students, provides specific and focused content and activities which contribute to preparation for careers in quality discipline. Completion of the minor prepares participants to pursue further credentials in the quality area, including America Society for Quality (ASQ) certification tests.

Students earn the minor by completing the listed courses with a "B-" or better in each required course. The required courses are

offered in a variety of formats and schedules. While all the courses are available on UW-Stout campus, several are also available online or on evening and weekends. The courses are also offered on sites with large concentration of registered students.

Who may enroll?

Any person interested in quality engineering and/or Six Sigma certification may enroll. To get started, apply online to UW-Stout.

Applications can be found for:

Undergraduate students: <http://www.uwstout.edu/admissions>

Graduate students: <http://www.uwstout.edu/grad>.

Please contact certificate advisor for more information - listed on the minor website.

Primary Competencies Provided

- Analyze challenges to determine root causes
- Apply statistical analysis tools to problem solving
- Develop and execute improvement plans
- Prepare for ASQ Certification tests

Program Requirements (24 credits)

Required Courses (18 credits)

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-422 Quality Engineering

(3 cr.)

Repeatable for Credit: No

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

STAT-330 or higher level Statistics

INMGT-425 Planned Experimentation for Quality Improvement

(3 cr.)

Repeatable for Credit: No

Quality improvement through planned experimentation that focuses on product realization activities which consist of new product design and formulation, manufacturing process development and improvement.

Prerequisite: take INMGT-422

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

MFGE-465 Reliability Engineering

(3 cr.)

Repeatable for Credit: No

A practical introduction to reliability engineering with the opportunity for application. Topics covered include reliability need, calculations, prediction and modeling, and test design.

Prerequisite: take STAT-330

Selectives (6 credits)

Select 6 additional credits from the list supplied by the department.

BUACT-410 Manufacturing Cost Analysis

(3 cr.)

Repeatable for Credit: No

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer.

Prerequisites: take BUACT 201 or BUACT 206

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

INMGT-335 Lean Manufacturing Systems

(4 cr.)

Global Perspective

Repeatable for Credit: No

An introduction to production/operations management and lean manufacturing system design for engineers. Emphasis is given to analysis and design of production systems, facility layout, and globalization.

Prerequisite: take STAT-330

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-416 People Process Culture

(3 cr.)

Repeatable for Credit: No

High performing people process culture organizations; integration of sociology, applied psychology, and organization behavior subject matter areas.

Prerequisite: take INMGT 400

INMGT-430 Employee Involvement: Work Teams

(2 cr.)

Repeatable for Credit: No

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods.

Must be Senior level or higher

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Quality Management Minor

Go to [minor website](#)

Introduction

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Students earn the minor by completing the listed courses with a "B-" or better in each required course. The required courses are offered in a variety of formats and schedules.

Primary Competencies Provided

- Analyze challenges to determine root causes
- Apply statistical analysis tools to problem solving
- Develop and execute improvement plans
- Prepare for ASQ Certification tests

Program Requirements (21 credits)

Required Courses (15 credits)

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-420 Quality Assurance-Practicum

(3 cr.)

Repeatable for Credit: No

Application of principles and techniques learned in INMGT-320, as part of Professional Semester/ Manufacturing Laboratory.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

Selectives (6 credits)

Select 6 additional credits from the list supplied by the department.

BUACT-410 Manufacturing Cost Analysis

(3 cr.)

Repeatable for Credit: No

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer.

Prerequisites: take BUACT 201 or BUACT 206

BUMGT-304 Principles of Management

(3 cr.)

Repeatable for Credit: No

Management theories, concepts, techniques, and practices in a complex, dynamic, changing and globalizing business world.

Application and analysis of functional or process approach to management including planning, organizing, leading, controlling and determinants of managerial success.

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

INMGT-200 Production and Operations Management

(3 cr.)

Repeatable for Credit: No

A broad analytical "systems" viewpoint is used to develop competency in product and services operations management decision-making and problem solving in a contemporary setting.

Prerequisites: take STAT 130, STAT-320 or STAT-330

INMGT-210 Service Operations Management

(3 cr.)

Repeatable for Credit: No

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

INMGT-220 Service Quality Assurance

(3 cr.)

Repeatable for Credit: No

Determination of goals, management systems, and implementation methodologies for all aspects of service organization quality assurance.

INMGT-300 Engineering Economy

(2-3 cr.)

Repeatable for Credit: No

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-305 Resource Planning and Materials Management

(3 cr.)

Repeatable for Credit: No

Principles and techniques for planning and managing materials and resources within organizations and throughout a supply chain. Topics covered include resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management, and various operational management techniques.

Prerequisites: take INMGT-200, STAT 130, or STAT-320

INMGT-335 Lean Manufacturing Systems

(4 cr.)

Global Perspective

Repeatable for Credit: No

An introduction to production/operations management and lean manufacturing system design for engineers. Emphasis is given to analysis and design of production systems, facility layout, and globalization.

Prerequisite: take STAT-330

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

INMGT-416 People Process Culture

(3 cr.)

Repeatable for Credit: No

High performing people process culture organizations; integration of sociology, applied psychology, and organization behavior subject matter areas.

Prerequisite: take INMGT 400

INMGT-422 Quality Engineering

(3 cr.)

Repeatable for Credit: No

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

STAT-330 or higher level Statistics

INMGT-430 Employee Involvement: Work Teams

(2 cr.)

Repeatable for Credit: No

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods.

Must be Senior level or higher

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Retailing Minor

Department of Business

Program Requirements (21 credits)

Required Courses

BUACT-206 Introduction to Financial Accounting

(3 cr.)

Repeatable for Credit: No

Introduction to accrual accounting using the accounting equation and accounting principles; includes preparing and analyzing basic financial statements, financial ratios, and accounting for sole proprietorships and partnerships.

Must be Sophomore level or higher

BURTL-212 Trend Tracking and Forecasting

(3 cr.)

Repeatable for Credit: No

Tracking and forecasting of product and consumer trends based on product lifecycle trends, fashion theories, socioeconomic and cultural factors, lifestyles, psychographic and demographic trends in the marketplace.

BURTL-127 Basic Merchandising

(3 cr.)

Repeatable for Credit: No

Analyzing the retailing process, the environment within which it operates, and the institutions and functions that are performed. A foundation for students who plan to work in retailing or related disciplines.

BURTL-327 Store Management

(3 cr.)

Repeatable for Credit: No

Develop management skills for retail stores of varying size.

Prerequisites: take BURTL 390

BURTL-329 Retail Promotions

(3 cr.)

Repeatable for Credit: No

Planning and execution of all the promotional messages used to communicate with members of a target market.

Prerequisite: take BURTL-127

BURTL-425 Current Retail Strategies for a Differential Advantage

(2 cr.)

Repeatable for Credit: No

Comparative analysis of specific retail corporations' strategies to gain a differential advantage with their merchandising and operational methodology.

Prerequisites: Must be Senior level and have taken BURTL-127

BURTL-390 Merchandise Planning and Control

(4 cr.)

Repeatable for Credit: No

Techniques for financial and unit planning, procurement and control of inventories for successful retail operations.

Prerequisites: Complete any GE Math course and BUACT-206

Science, Technology and Society Minor

Science, Technology and Society Coursework (21 credits)

Society Core (9 credits)

Society Core Requirements (3 credits)

Select 3 credits from the following:

HIST-390 Modern History of Science and Technology

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines a global history of science and technology. Themes include: scientific theories and methods within their intellectual contexts; relationships between science, technology, and society; interactions between cultural groups (Western; non-Western) as impacted by science and technology; impacts of science and technology on race, gender, and other groups.

POLS-250 History of Race, Politics and Technology

(3 cr.)

Racial & Ethnic Studies Category A, Cross-disciplinary Issues

Repeatable for Credit: No

Historical and contemporary relationships between technology, assessments of technology impacts, studies of differing impacts upon distinct racial, ethnic and socioeconomic groups, and analysis of group differences in access to political and policy-oriented remedies.

Society Core Selectives (6 credits)

Select 6 unique credits from the following:

ANTH-230 Anthropology of the Contemporary United States

(3 cr.)

Racial & Ethnic Studies Category A, Social and Behavioral Science - Anthropology, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Use of theoretical and conceptual principles and perspectives of cultural anthropology to study communities and cultures in the U.S. Examination of race, class, gender, and sexual inequalities; current Native American issues; kinship; religion; militarism; cultures of science and technology.

ANTH-293 Environmental Justice

(3 cr.)

Racial & Ethnic Studies Category A, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Environmental racism; socio-economic inequality and exposure to environmental hazards; race, class, and environmental suffering; grassroots activism and opposition to environmental inequality and racism, particularly among U.S. minority groups; incorporation of environmental justice principles into public policy and corporate decision-making.

ENGL-335 Introduction to Digital Humanities

(3 cr.)

Repeatable for Credit: No

Explores the dynamic interaction between digital technologies and the humanities (art, literature, film, history, media, pop culture).

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

GEOG-310 Food Justice

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

Analysis of food "geographies" - how food travels from farm to table; the importance of power and justice in the production, distribution and consumption of food. Exploration of issues of food democracy, food justice, and food sovereignty. Special attention to racial and class-based inequities within the global food system.

HIST-290 Words, Images, Sounds and the Projection of Global Culture

(3 cr.)

History, Contemporary Issues

Repeatable for Credit: No

Ways in which traditional historical and anthropological formats have been impacted by new forms of visual media. An appreciation of new techniques in historical and anthropological analysis and practical experience in multimedia presentations of important global questions.

HIST-390 Modern History of Science and Technology

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines a global history of science and technology. Themes include: scientific theories and methods within their intellectual contexts; relationships between science, technology, and society; interactions between cultural groups (Western; non-Western) as impacted by science and technology; impacts of science and technology on race, gender, and other groups.

LIT-285 Science Fiction

(3 cr.)

Arts and Humanities - Literature

Repeatable for Credit: No

Critical survey of popular and classic science fiction.

Prerequisite: take either ENGL-101 or ENGL-111

POLS-250 History of Race, Politics and Technology

(3 cr.)

Racial & Ethnic Studies Category A, Cross-disciplinary Issues

Repeatable for Credit: No

Historical and contemporary relationships between technology, assessments of technology impacts, studies of differing impacts upon distinct racial, ethnic and socioeconomic groups, and analysis of group differences in access to political and policy-oriented remedies.

POLS-315 Public Policy Analysis

(3 cr.)

Repeatable for Credit: No

Analysis of origins of public policy and policy- making process. Specific case studies of public policy.

PSYC-225 Psychology of Video Games

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Psychological aspects and impacts of video games. Theoretical factors of cognitive, learning, motivation, development, personality, social, and clinical psychology will be examined in relation to the experience and outcomes resulting from game play.

SOC-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

SOC-291 Sociology of Health and Illness

(3 cr.)

Racial and Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Sociological approaches to health and illness, both domestically and globally, with special emphasis on race and health. Topics include the social distribution of illness; health disparities across race/class/gender; global comparisons in the health of populations; the social construction of illness; the history and structure of health care systems and institutions; and various historical and contemporary health care debates. Health and illness will be considered throughout in terms of social justice and responsibility.

Science and Technology Core (9 credits)

Science and Technology Core Requirements (3 credits)

Select 3 credits from the following:

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

Science and Technology Core Selectives (6 credits)

Select 6 unique credits from the following:

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

BIO-130 Human Sexual Biology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary investigation into human reproductive physiology, from development through reproduction and aging, including contraception and sexually transmitted infections, within a framework of historical context and societal lens.

CHEM-110 Chemistry in Our World

(4 cr.)

Cross-disciplinary Issues, Analytic Reasoning and Natural Sciences - Natural Sciences with Lab

Repeatable for Credit: No

Fundamental role of chemistry in our daily lives focusing on contemporary issues to introduce chemical concepts, developing these concepts in a concerted manner to gain understanding of the issues.

Requires Math proficiency greater than or equal to MATH-90

CNS-200 Introduction to Cognitive Neuroscience

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science, Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Cognitive and neural processes that support higher mental functions and methods by which inferences about the brain bases of cognition are made.

DES-150 Introduction to Sustainable Design and Development

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination of theory and practice of sustainable development and the influential role of design.

EDUC-210 Impacts of Technology on Learning

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

The impacts of technology on individual learners and society; the role technology plays in both the information and formal education of individuals; contemporary developments and issues related to the use of technology in individual and collective learning scenarios.

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

NANO-101 Explorations in Nanotechnology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Discussion of the main concepts in nanoscience with an exploration of societal and environmental impacts.

PSYC-280 Forensic Psychology, Law and Ethics

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Surveys the application of psychological theory and research to legal and ethical questions and problems, from a community-oriented perspective. U.S. focus. Psychologists' roles in assessing and improving legal policies and practices, victim and offender well-being and law enforcement activity. Sociocultural bias/fairness explored.

Science, Technology and Society Selectives (3 credits)

Take an additional 3 credits (1 course) from the Society or Science and Technology Core.

Sociology Minor

Program Requirements (21 credits)

Required Courses (9 credits)

ANTH-220 Cultural Anthropology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Science

Repeatable for Credit: No

Introduction to anthropological concepts and methods; cultural diversity worldwide and in the United States; aspects of culture and how they change over time; introduction to the application of anthropology to contemporary social issues; anthropological perspectives on race and ethnicity.

SOC-110 Introductory Sociology

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Introduction to sociological theories and methods in the study of social groups, interaction, inequality, and institutions. The place of the U.S. in a global context; comparisons of contemporary U.S. society with other societal and historical contexts. Processes of social location and inequalities, especially those pertaining to race/ethnicity.

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work. Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

Selectives (12 credits)

Additional courses to complete 21 credits will be selected from the program plan sheet provided by the department.

ANTH-300 Native Americans

(3 cr.)

Racial & Ethnic Studies Category A, Social and Behavioral Sciences - Anthropology

Repeatable for Credit: No

Survey of Native American cultures; major social, economic, religious, and political forms of organization; contemporary Native American lives and issues in both urban and reservation contexts.

SOC-225 Social Problems

(3 cr.)

Racial & Ethnic Studies Category B, Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological analysis of current social problems in the U.S. and the world.

SOC-355 Social Psychology

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Sociological theory and approaches to interaction, the social construction of meaning, and identities. Explore the intersections of social structure, culture, and the self. Application to contemporary social issues.

SOC-275 Sociology of Gender Roles

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Sociological analysis of social roles played by the sexes.

- SOC-300 Sociology of Technology (3 cr.)

SOC-315 Criminology

(3 cr.)

Repeatable for Credit: No

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system.

Prerequisite: take SOC-110

SOC-325 Society and Leisure

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Explanations of recreation and leisure structures and processes from multiple theories within sociology and economics; comparative case studies of recreation and leisure; ethical implications of how recreation and leisure are encouraged and pursued in a modern capitalist system, considering various philosophical perspectives of justice.

SOC-340 Sociology of Work

(3 cr.)

Repeatable for Credit: No

Human behavior in various types of employment and occupations; trends in U.S. occupational structure.

SOC-350 Sociology of Hmong Culture

(1 cr.)

Repeatable for Credit: No

Sociological overview of Hmong cultural values, history, immigration and resettlement experiences, family and clan functions, and spiritual beliefs and practices.

SOC-360 Sociology of Juvenile Delinquency

(3 cr.)

Repeatable for Credit: No

Theories of delinquency, criminal behavior, and social control in relation to modern institutions in American culture.

Prerequisite: take SOC-110

SOC-375 Sociology Of Minority Groups

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

SOC-400 Sociology of Altruism

(3 cr.)

Social and Behavioral Sciences - Sociology

Repeatable for Credit: No

Sociological perspective of altruism explored in the context of volunteer public service, and biographies of exemplary public service participants.

Department Consent

Prerequisite: Acceptance into University Honors Program

SOC-410 Sociology of Thailand's Minority Groups: Study Abroad Program

(4 cr.)

Global Perspective

Repeatable for Credit: No

Study abroad program to Thailand. In-depth experiential learning of Thai minority cultures, including religions, socio-political status, Buddhism, health, education, trafficking of women and children, limited citizenship status, and poverty. Field trips to villages, nongovernmental agencies, schools, and clinics.

SOC-499 Independent Study

(1-3 cr.)

Repeatable for Credit: Yes

Department Consent

SOCWK-420 Human Behavior in the Social Environment

(3 cr.)

Repeatable for Credit: No

Biological, ecological, sociological, psychological, cultural, and spiritual development throughout the life cycle. Human development with the social environment emphasis from micro (individuals), mezzo (groups and families), and macro (community and organizations) perspectives and various theoretical frameworks. Apply core social work competencies.

SOCWK-430 Social Work Practice Methods: Individuals

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of individuals (micro) social work practice: client interviewing, evidence-based assessments and interpersonal skills. Linkage to families, groups and communities/organizations. Apply social work competencies.

SOCWK-440 Social Work Practice Methods: Groups and Families

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of groups/families (mezzo) social work practice: group dynamics and processes, group development and family dynamics with intervention strategies. Linkage to individuals and communities/organizations. Apply core social work competencies.

Note:

A minimum grade of C- is required for each course in the minor with an overall grade point average of 2.5 in required courses. The three required courses and at least two selective courses must be completed at UW-Stout to fulfill the residency requirement.

Spanish Minor

Department of Speech Communication, Foreign Language, Theatre and Music

Program Requirements (24 credits)

Required Courses (20 credits)

SPAN-121 Practical Spanish I

(2 cr.)

Repeatable for Credit: No

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in Hispanic and Hispanic-American cultural context. Not available for credit to students who took SPAN-101.

Not for credit to students who took SPAN-101.

SPAN-122 Practical Spanish II

(2 cr.)

Communication Skills

Repeatable for Credit: No

Second quarter college Spanish. Vocabulary, conversational patterns, irregular present tense verbs, regular and some irregular preterit verbs; object pronouns. Spanish language in the context of Hispanic culture. Not available for credit to students who took SPAN-101. One semester of H.S. Spanish or SPAN-121 is required.

Prerequisite: take SPAN-121; not available for credit to students who took SPAN-101.

or

SPAN-101 Elementary Spanish I

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Develop a solid foundation in the fundamental elements of Spanish: listening, speaking, reading, and writing. Cultures of Spanish-speaking peoples throughout the world, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Not available for credit to students who took SPAN-121 or SPAN-122.

Prerequisite: Not available for credit to students who took SPAN-121 or SPAN-122

SPAN-102 Elementary Spanish II

(4 cr.)

Global Perspective, Communication Skills - Foreign Language & Culture

Repeatable for Credit: No

Second level of understanding, speaking, reading and writing in Spanish. topics in the culture of Spanish-speaking people, including those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers. Requires one year of H.S. Spanish or SPAN-101 or SPAN-122.

Prerequisite: Spanish Placement Test or SPAN-101

SPAN-201 Intermediate Spanish I

(3 cr.)

Global Perspective, Communication Skills, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation and recognition of verb tenses. Readings and class discussion based on historical background and contemporary Hispanic life, including Hispanic culture in the United States. Typically appropriate for students that have taken two years of H.S. Spanish or completed SPAN-102.

Prerequisite: Spanish Placement Test or SPAN-102

SPAN-202 Intermediate Spanish II

(3 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Complete grammar review of standard Spanish, applicable to both conversational situations and business or personal correspondence. Culture of Spanish-speaking peoples (short narratives, music, art) from around the globe. Knowledge of key historical and cultural characteristics of Spanish-speaking peoples via listening, reading, speaking, and writing. Typically appropriate for students that have taken two years of H.S. Spanish or completed SPAN-102. The Department highly recommends taking SPAN 201 before SPAN-202.

Prerequisites: Spanish Placement Test or SPAN-102.

SPAN-227 Spanish Composition and Conversation I

(3 cr.)

Global Perspective, Communication Skills

Repeatable for Credit: No

Advanced grammar review. Introduction to composition. Writing paragraphs and short essays. Advanced conversation. Emphasis on native-like pronunciation, vocabulary, structural fluency, and cultural awareness and sensitivity vis-a-vis Spanish-speaking peoples around the globe. Typically appropriate for students who have taken four years of H.S. Spanish or completed SPAN 202. The Department highly recommends taking SPAN 202 before SPAN-227.

Prerequisite: Spanish Placement Exam or SPAN 102

SPAN-229 Hispanic Literature in America

(3 cr.)

Racial & Ethnic Studies Category B, Global Perspective, Communication Skills, Arts and Humanities - Foreign Language and Culture

Repeatable for Credit: No

Themes and techniques of Hispanic literature. Vocabulary in Spanish for discussion of a variety of literary genres. Narratives grounded in historical, racial, and cultural contexts from throughout the Spanish-speaking locales in the United States. Emphasis on increasing oral and written fluency in Spanish. Typically appropriate for students who have taken 4 years of H.S. Spanish or SPAN 202. The Department highly recommends taking SPAN 227 before SPAN-229.

Prerequisite: Spanish Placement Test or SPAN-202.

Selectives (4-6 credits)

4-6 additional Spanish course credits approved by the Spanish adviser.

Studio Art Minor

Introduction

The Studio Art Minor provides a foundation in visual literacy and creative problem solving within the context of the fine art studio. Students analyze art in historical and cultural context and apply principles of art and design in the production of artworks. This minor

equips students to be creative, reflective, visually astute, and culturally aware.

A studio art minor requires a minimum of 24 credits. All course work must be A-F grade basis and completed with a "C" or better. A maximum of four courses from the major may "double count." Certain courses may be repeated for credit with authorization from advisor. A minimum of 12 credits within the minor must be completed at UW-Stout. Students may choose 1) a general Studio Art Minor, or 2) a concentrated Studio Art Minor.

Program Requirements (24 credits)

Required Courses (24 credits)

General Studio Art Minor

ART-100 Drawing I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-103 Three-Dimensional Design Foundations

(3 cr.)

Repeatable for Credit: No

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisite: Take ART-101 with a grade of C or better

Art History Selectives (3 credits)

ARTH-223 Survey of Art--Ancient Through Medieval

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

The painting, sculpture, architecture and minor arts in the ancient western world.

ARTH-224 Survey of Art-Renaissance Through 20th Century

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-225 Introduction to Non-Western Art

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation

Repeatable for Credit: No

Cross cultural examination of the history of Non-Western art from a global perspective. Exploration of the arts of Asia, Africa, the Americas, Oceania, and the Islamic world. Exposure to diverse visual elements and humanistic concerns. Themes include: diversity, identity, religion, politics, representation of self and "the other", and Westernization.

ARTH-256 Special Topics in Art History: Art in Italy

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation (Not listed)

Repeatable for Credit: No

Survey of the art and architecture of Italy, from Antiquity through the 17th Century, with travel to Italy.

ARTH-319 History of Design

(3 cr.)

Repeatable for Credit: No

Survey of the history of modern design since its origins in the late Renaissance.

Prerequisites: take ARTH-224 with a grade of C or better and ENGL-101/ENGL-111

ARTH-326 Greek and Roman Art

(3 cr.)

Repeatable for Credit: No

The arts of ancient Greece and Rome.

ARTH-327 Medieval Art

(3 cr.)

Repeatable for Credit: No

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

ARTH-328 Italian Renaissance Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art and architecture in Italy from the fourteenth through the sixteenth centuries.

ARTH-329 Northern Renaissance Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art in Northern Europe during the late fourteenth, fifteenth and sixteenth centuries.

ARTH-330 Baroque Art

(3 cr.)

Repeatable for Credit: No

A chronological, geographic, and thematic survey of art and architecture in Europe and the colonial New World in the seventeenth and early eighteenth centuries.

ARTH-331 Art and Controversy

(3 cr.)

Arts and Humanities - Art History/Music and Theater Appreciation, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Exploration of controversial or provocative works of art that push the boundaries of artistic expression. Consideration of social and historical contexts of provocative imagery. Understanding the delicate balance between differing individual, social, and cultural mores and an artist's right to freedom of expression.

ARTH-332 Gender and Art

(3 cr.)

Repeatable for Credit: No

Exploration of social and cultural constructions of identity and sexuality from Prehistory to the Modern era. Analysis of the ways in which gender identities can be shaped by politics, religion, and culture, and how an artist's gender and/or sexual preferences affect visual imagery, from subject choices to market values.

ARTH-333 History of Interiors and Furnishings

(3 cr.)

Global Perspective

Repeatable for Credit: No

A survey of the history of interior design, furniture, and household objects since ancient Egypt.

ARTH-335 19th Century Art In Europe

(3 cr.)

Repeatable for Credit: No

History of European art from about 1800 to 1900.

ARTH-336 Modern Art

(3 cr.)

Repeatable for Credit: No

The main currents and developments in art from Monet and Cezanne to 1950.

ARTH-337 Art Since 1950

(3 cr.)

Repeatable for Credit: No

Developments in painting and sculpture in Europe and America since 1950.

Prerequisite: take ARTH-224 with a grade of C or better

ARTH-339 Japanese Art and Culture

(3 cr.)

Global Perspective

Repeatable for Credit: No

Thematic survey of the art and culture of Japan from pre-history to the present day. Recognition of major styles, appreciation of Eastern cultural ideals, familiarity with influences and borrowings from the West. Class discussions include religion (Shinto, Buddhism), art, culture (tea ceremonies, Kabuki Theater) and literature.

ARTH-340 History of Interactive Media

(3 cr.)

Repeatable for Credit: No

Survey of historical developments leading to, and in the design of, video games, the Internet, and related media. Must be in a BFA major, Art Ed or GDD major

Selectives

A minimum of 15 ART credits to be selected in consultation with your adviser, or choose 15 credits in a concentrated area.

Metals and Contemporary Art Jewelry

ART-215 Metals and Contemporary Art Jewelry I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Exploration and development of jewelry and other three-dimensional objects made of metal and related materials. An introduction to concept, design development and technical approaches.

ART-315 Metals and Contemporary Art Jewelry II

(3 cr.)

Repeatable for Credit: No

Exploration of intermediate jewelry forms and three-dimensional objects made of metal and related materials. Expanded approaches to conceptual development, design and technical applications.

Prerequisite: take ART-215 with a grade of C or better

ART-415 Metals and Contemporary Art Jewelry III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced studio experience in individualized jewelry forms and three-dimensional objects made of metal and related materials. A continuation of technical skills is coupled with emphasis on conceptual development and critical thinking.

Prerequisite: Take ART-315 with a grade of C or better

- ART-XXX Art Studio Selective

Ceramics

ART-213 Ceramics I

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Study and application of wheel-throwing, hand-building, glazing and firing techniques for ceramics, as a means of visual expression.

ART-313 Ceramics II

(3 cr.)

Repeatable for Credit: No

Continued study and application of wheel-throwing, hand-building, glazing and firing of ceramics, as a means of visual expression.

Prerequisite: take ART 213 with a grade of C or better

ART-413 Ceramics III

1-(3 cr.)

Repeatable for Credit: Yes

Advanced self-directed research in ceramics, focusing on a continued development of aesthetics, techniques and materials.

Repeatable for both undergraduate and graduate students

Prerequisite: take ART-313 with a grade of C or better

- ART-XXX Art Studio Selective

Drawing

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-300 Drawing III

(3 cr.)

Repeatable for Credit: Yes

Advanced drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: take ART-200 with a grade of C or better

ART-301 Life Drawing I

(3 cr.)

Repeatable for Credit: No

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200 with a grade of C or better

ART-401 Life Drawing II

(3 cr.)

Repeatable for Credit: No

Continued drawing and analysis of the structure of the human figure.

Prerequisite: take ART-301 with a grade of C or better

- ART-XXX Art Studio Selective

Painting

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-209 Painting I

(3 cr.)

Repeatable for Credit: No

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200 with a grade of C or better

ART-409 Painting II

(1-3 cr.)

Repeatable for Credit: Yes

Continued investigation of painting issues with a broader range of technical concerns, historical and contemporary approaches through expanded research requirements.

Prerequisite: take ART-209 with a grade of C or better

ART-410 Painting III

(3 cr.)

Repeatable for Credit: Yes

Self-directed study of painting. Continued development of individual research, painting skills, and studio discipline.

Prerequisite: take ART-409 with a grade of C or better

- ART-XXX Art Studio Selective

Printmaking

ART-200 Drawing II

(3 cr.)

Repeatable for Credit: Yes

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media.

Prerequisite: take ART-100 with a grade of C or better

ART-217 Printmaking I

(3 cr.)

Repeatable for Credit: No

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART 200, each with a grade of C or better

ART-417 Printmaking II

(1-3 cr.)

Repeatable for Credit: Yes

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits.

Prerequisite: take ART-217 with a grade of C or better

- ART-XXX Art Studio Selective

Contemporary Sculptural Practices

ART-211 Contemporary Sculptural Practices I

(3 cr.)

Repeatable for Credit: No

Introduction to sculptural concepts.

Prerequisite: take ART-103 with a grade of "C" or better

ART-311 Contemporary Sculptural Practices II

(3 cr.)

Repeatable for Credit: No

Continued investigation into contemporary sculptural practices with an emphasis upon expanded research, development of concepts, and exploration of materials.

Prerequisite: take ART-211 with a grade of "C" or better

ART-411 Contemporary Sculptural Practices III

(1-3 cr.)

Repeatable for Credit: Yes

Advanced problems in sculpture, through the exploration and utilization of media for creative and expressive ends. Repeatable; topics and projects change

Prerequisite: take ART-311 with a grade of C or better

- ART-XXX Art Studio Selective

Supply Chain Management Minor

Program Requirements (22 credits)

Required Courses

INMGT-405 Resource Planning and Materials Management Practicum

(3 cr.)

Repeatable for Credit: No

Provides students with specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. This course focuses on the first two of the five required APICS exams that lead to certification as a Certified in Production and Inventory Manager (CPIM).

Prerequisite: take INMGT-305

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

BUSCM-338 Principles of Logistics

(3 cr.)

Repeatable for Credit: No

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330

BUSCM-437 Procurement, Sourcing and Supply Chain Management

(3 cr.)

Repeatable for Credit: No

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principles. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330

INMGT-440 Lean Enterprise

(3 cr.)

Repeatable for Credit: No

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisite: take INMGT-200

BUSCM-461 Supply Chain Management Design II Capstone

(4 cr.)

Repeatable for Credit: No

Continuation of Supply Chain Design I focusing on design, model and recommended integrated supply chain solutions from the perspective of strategy, people, technology, business models, and best practices for managing the flow of goods and information across the supply chain.

Prerequisite: take BUSCM-460

INMGT-365 Project Management

(3 cr.)

Repeatable for Credit: No

Defining, planning, and management of small-to-medium projects following the Project Management Institute Body of Knowledge (PMBOK). Topics include team and leadership skills, project life cycle phases, resource management, a project management software application, and management of project constraints for cost, schedule, quality, and customers.

Prerequisite: Junior standing or higher.

BUSCM-449 Cooperative Education Experience

(1-8 cr.)

Repeatable for Credit: Yes

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

Department Consent

Selectives

Select at least 5 credits from the list of courses supplied by the department.

Sustainability Minor

Program Requirements (22-24 credits)

Required Courses (10 credits)

BIO-111 Science, the Environment and Sustainability

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Relationship of humans to the natural environment with a focus on sustainability. Ecological principles in relation to global contemporary problems, such as resource utilization, species extinction, human population dynamics, and climate change, with an interdisciplinary approach to problem solving. A special course fee applies.

BIO-141 Plants and People

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary investigation into the global economic and cultural importance of plants, how aspects of plant biology have played historical roles in shaping societies around the world, and the roles of plants in solving future societal problems. A special course fee applies.

DES-150 Introduction to Sustainable Design and Development

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Examination of theory and practice of sustainable development and the influential role of design.

ENSC-425 Environmental Science and Sustainability Capstone

(3 cr.)

Repeatable for Credit: No

Sustainable solutions to real-world problems will be developed through partnerships with private, public, and/or industrial sectors of society. Projects will be taken from the ideation phase to the completion of the required final documentation. The design of a triple-bottom-line solution will be emphasized.

Prerequisite: Must be Senior level or higher

SUST-425 Sustainable Design & Development Capstone

(3 cr.)

Repeatable for Credit: No

Application and study of sustainable design and development through the solution of a community-based project. Design of a triple bottom line solution to industrial problems will be emphasized.

Prerequisite: Must be Senior level or higher

Group I Selectives (Minimum of 6 credits)

AEC-191 The Built Environment

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Construction and its relationship to resources, materials, and the culture in which it takes place. Discussion of significant historical and modern structures. Emphasis on how, why, and by whom structures are built and what can be learned from them.

AEC-460 Sustainable Construction

(3 cr.)

Repeatable for Credit: No

Survey of principles of sustainable construction, including building design and delivery methods. Ethics and stewardship as part of the constructor's role in the built environment. Examination of domestic and global Green building assessment systems. Emphasis is placed on preparing the student for the LEED building assessment system. Must be Junior level or higher

APRL-167 Textiles I: Theory, Fibers and Structures

(3 cr.)

Repeatable for Credit: No

Study of fibers, yarns, textiles, and textile manufacturing processes, and how target market needs are addressed through textile selection.

BIO-270 Natural History of the Neotropics

(4 cr.)

Global Perspective, Analytic Reasoning and Natural Sciences - Natural Science with Lab

Repeatable for Credit: No

Natural history of neotropical marine and terrestrial systems, including coral reefs and rainforests. Focus on patterns and processes underlying biodiversity of the tropics, including ecological principles, specific adaptations, and taxonomy of tropical biota. Introduction to human cultures of the neotropics and their historical and contemporary impacts on tropical diversity.

CHEM-110 Chemistry in Our World

(4 cr.)

Cross-disciplinary Issues, Analytic Reasoning and Natural Sciences - Natural Sciences with Lab

Repeatable for Credit: No

Fundamental role of chemistry in our daily lives focusing on contemporary issues to introduce chemical concepts, developing these concepts in a concerted manner to gain understanding of the issues.

Requires Math proficiency greater than or equal to MATH-90

DES-431 ID5: Industrial Design Senior Studio I

(3 cr.)

Repeatable for Credit: Yes

Exploration of advanced industrial design topics through extensive projects with consideration given to contextual and environmental issues. topics and projects rotate each semester. Department consent

Prerequisite: take DES-331 and DES-332 with a grade of C or better

ETECH-100 Impacts of Engineering

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Comprehensive study of engineering design from initiation to completion. Definition and history of engineering disciplines with comparisons. Investigation and exploration of past and present impacts on people, society, and the environment. Examination of contemporary and emerging issues related to engineering. Introduction to engineering in practice through engineering design projects.

FN-244 Farm to Fork: Food Issues

(3 cr.)

Cross-disciplinary Issues

Repeatable for Credit: No

Contemporary issues in agriculture, food production, and food processing; science, technology, and policy in the food system; critiques in agricultural sustainability; food consumption choice; food system changes and implications on individuals and society.

PKG-150 Packaging Fundamentals

(3 cr.)

Repeatable for Credit: No

Explore the purpose of packaging materials and manufacturing methods, including global perspectives, history, environment, market and consumer needs.

RC-440 Environmental Leadership & Sustainable Management

(3 cr.)

Repeatable for Credit: No

Examination and evaluation of topics related to environmental regulations, environmental leadership and sustainability management. Environmental and sustainability issues and management challenges will be analyzed and synthesized to provide a fundamental understanding of environmental regulations and management strategies to promote environmental protection and sustainability management.

Prerequisite: Take RC-383

SUST-315 Sustainable Engineering

(3 cr.)

Repeatable for Credit: No

Impact of engineering and design/manufacturing decisions on the environment. Topics include sustainability, energy and material flows, risk assessment, multi-use product life cycles, manufacturing process waste streams, sustainable product design issues, end-of-life product handling, and pollution prevention techniques.

Must be Junior level or higher

SUST-432 Global Sustainability Experience in Design & Manufacturing

(3 cr.)

Repeatable for Credit: No

Cross-disciplinary exploration of ecologically-friendly design, engineering, manufacturing and business models. International travel component with corporate, cultural, academic and civic leaders. Cultural, economic and political influences; product design; manufacturing; sustainability; application of current eco-friendly product design models; research Topics; regional global visitation; studio and laboratory experiences; project and presentation.

Must be Junior level or higher

Group II Selectives (Minimum of 6 credits)

ANTH-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

SOC-290 Global Political Ecology

(3 cr.)

Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social, political, and economic origins of contemporary environmental problems from sociological, anthropological and geographic perspectives; social construction of nature and knowledge; environmentalism, environmental racism and environmental justice in cross-cultural perspective; ethical implications of contemporary environmental problems regarding perspectives and distributions of justice.

ANTH-293 Environmental Justice

(3 cr.)

Racial & Ethnic Studies Category A, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Environmental racism; socio-economic inequality and exposure to environmental hazards; race, class, and environmental suffering; grassroots activism and opposition to environmental inequality and racism, particularly among U.S. minority groups; incorporation of environmental justice principles into public policy and corporate decision-making.

SOC-293 Environmental Justice

(3 cr.)

Racial & Ethnic Studies Category A, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Environmental racism; socio-economic inequality and exposure to environmental hazards; race, class, and environmental suffering; grassroots activism and opposition to environmental inequality and racism, particularly among U.S. minority groups; incorporation of environmental justice principles into public policy and corporate decision-making.

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

ECON-250 Introduction to Environmental Economics and Policy

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Economic analysis of environmental issues. How economic systems can form incentives for either environmental degradation and improvement. How producers and consumers in the market system experience the responsibility to protect the environment. Topics include market failure, the valuation of nonmarket goods, cost-benefit analysis, Environmental Justice, and environmental policy analysis.

ECON-350 Environmental and Natural Resource Economics

(3 cr.)

Repeatable for Credit: No

Principles underlying use of natural resources including demand and supply; efficiency; cost effectiveness and benefit-cost analysis; sustainability; optimal pricing; and management of renewable and non-renewable resources. Principles are applied to the examination of pollution control, preservation versus development, recycling, and other environmental and natural resource issues and policies.

Prerequisites: take either ECON-201 or ECON-210

GEOG-310 Food Justice

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

Analysis of food "geographies" - how food travels from farm to table; the importance of power and justice in the production, distribution and consumption of food. Exploration of issues of food democracy, food justice, and food sovereignty. Special attention to racial and class-based inequities within the global food system.

LIT-275 Environmental Literature

(3 cr.)

Arts and Humanities - Literature, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisite: take either ENGL-101 or ENGL-111

PAX-201 Introduction to Applied Peace Studies

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

A general introduction to peace studies as an area of inquiry. The nature and dynamics of violent conflict, the conditions and practices of peace in its many forms, emphasis on peace building and nonviolent conflict transformation.

PAX-210 Nonviolence and the Civil Rights Movement

(3 cr.)

Racial and Ethnic Studies Category A, Cross-disciplinary Issues

Repeatable for Credit: No

Introduction to theory and practice of nonviolence and its application in the American Civil Rights movement. Includes a required field trip over spring break to significant locations linked to the Civil Rights movement.

PAX-271 Conflict Resolution and Analysis

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

An overview of the interdisciplinary field of conflict resolution and analysis in terms of theory, research, and practice. Diverse strategies for conflict mediation are explored. Social, environmental and economic justice are studied as the consequences of nonviolent conflict resolution strategies.

PSYC-281 Psychology for Sustainability

(3 cr.)

Repeatable for Credit: No

Issues impacting environmental and societal sustainability. Factors influencing attitudes towards overconsumption, materialism, and nature. Psychological approaches to understanding and changing individuals, communities, and organizations to create a more sustainable world. Social and ethical imperatives for addressing sustainability.

Prerequisite: take BIO-101 or BIO-111

Note:

A minimum grade of "C" (2.0) is required in all courses. Students are highly encouraged to declare this minor before they obtain junior level status.

Web Technology Minor

Department of Apparel and Communication Technologies

Program Requirements (21 credits)

Required Courses

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

DMT-485 Search Engine Optimization

(3 cr.)

Repeatable for Credit: No

Contemporary application of strategies and technology related to the improvement of placement in search engine and other relevant search results.

PHOTO-130 Introduction to Still and Moving Image Photography

(3 cr.)

Arts and Humanities - Creative/Performing Arts

Repeatable for Credit: No

Introduction to the basic visual grammar and critical-thinking skills of still and moving image photography. Cinematic, photographic and visual theory will be addressed, with an emphasis on aesthetics, technical processes, and paradigms of visual literacy. Students will explore concepts, processes and techniques that are applicable to many disciplines. A DSLR camera with full manual control in still and video capture modes is required. A special course fee applies.

Women and Gender Studies Minor

Interdisciplinary analysis of gender and discrimination, including an examination of history, science, art, and institutions throughout the U.S. and globally.

Program Requirements (18 credits)

Required Courses (6 credits)

WGS-210 Introduction to Women and Gender Studies

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary analysis of gender and discrimination, including an examination of history, science, art, and institutions throughout the U.S. and globally.

ANTH-356 Gender in Cross-Cultural Perspective

(3 cr.)

Global Perspective, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Gender roles in cross-cultural perspective. Anthropological theories of gender and inequality; social responsibility balancing cultural relativism and equity. Variation in domestic, social, economic, political, and religious roles; historical development of and contemporary changes in gender roles; global influences and processes of change and improvement in the lives of modern women.

Selectives (12 credits)

Choose 6 or more credits from Level A. Remaining credits may be chosen from either Level A or Level B. No more than 9 credits can come from the student's major.

Level A

ARTH-332 Gender and Art

(3 cr.)

Repeatable for Credit: No

Exploration of social and cultural constructions of identity and sexuality from Prehistory to the Modern era. Analysis of the ways in which gender identities can be shaped by politics, religion, and culture, and how an artist's gender and/or sexual preferences affect visual imagery, from subject choices to market values.

CSTEM-125 Gender and Science, Technology, Engineering and Mathematics

(3 cr.)

Global Perspective

Repeatable for Credit: No

Issues surrounding women and men in STEM fields; representation of women in these fields, reasons for under-representation; global ethnic and historical perspectives.

HDFS-257 Lifespan Sexuality

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Introduction to human sexuality over the lifespan, utilizing an individual and family perspective. Development of sexual behavior, relationships, and gender characteristics from infancy to late life. Emphasis on ethical issues and implications of sexuality, gender and sexual orientation. Discussion of love and intimacy as key aspects of sexuality.

HDFS-320 Divorced, Single Parent and Remarried Family

(2 cr.)

Repeatable for Credit: No

Trends and issues in divorce, single parenting and remarriage related to effects on adults, children and society.

HDFS-350 Women's Relationships in Later Life

(3 cr.)

Repeatable for Credit: No

Women's experiences in later life. Impact of race, culture, class, sexual orientation upon aging. Images of aging women in contemporary literature and the media. Older women's experiences in familial relationships and friendships.

Must be Junior level or higher

HDFS-352 Sexual and Gender Identities in Families and Society

(3 cr.)

Repeatable for Credit: No

Introductory understanding of sexual and gender identities in families and society.

HDFS-456 Abuse and the Family

(3 cr.)

Repeatable for Credit: No

Definition and analysis of types of abuse in family context. Interrelationship of victims, perpetrators, other family members, helping professionals, social context. Risk factors, effects, reporting and recovery.

Prerequisites: take HDFS-115 and HDFS-215

HIST-311 Women and War: A Global Perspective in the Modern Era

(3 cr.)

Arts and Humanities - History

Repeatable for Credit: No

Examines the lives and roles of women in conflicts from 1789 to the present during wars in Europe, Africa, Asia, and Latin America with minor focus on the United States.

HIST-321 United States Women's History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity, class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

INMGT-415 Inclusivity in Leadership

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

An examination of leadership dynamics for but not limited to women, people of color and other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations.

Prerequisites: take SOC-110 and either INMGT-400 or BUMGT-304

LIT-272 Women Writers

(3 cr.)

Racial and Ethnic Studies Category B, Global Perspective, Arts and Humanities - Literature

Repeatable for Credit: No

Study of representative American and international women writers within the tradition of feminist literary theory.

Prerequisite: take either ENGL-101 or ENGL-111

PSYC-372 Psychology of Sex and Gender

(3 cr.)

Repeatable for Credit: No

Differences and similarities between females and males; psychosocial implications on personal and political status and the resulting influence on identity and self-concept.

SOC-275 Sociology of Gender Roles

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Sociological analysis of social roles played by the sexes.

SOC-291 Sociology of Health and Illness

(3 cr.)

Racial and Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Sociological approaches to health and illness, both domestically and globally, with special emphasis on race and health. Topics include the social distribution of illness; health disparities across race/class/gender; global comparisons in the health of populations; the social construction of illness; the history and structure of health care systems and institutions; and various historical and contemporary health care debates. Health and illness will be considered throughout in terms of social justice and responsibility.

- WGS-398 Field Experience in Community Projects (1-3 cr.)
- WGS-399 Independent Study in Women and Gender Studies (1-3 cr.)
- WGS-XXX Applied Research in Women and Gender Studies (1 cr.)

Level B

APRL-211 History and Culture of Fashion

(3 cr.)

Repeatable for Credit: No

A study of the changes in fashion including trends, designers and cultural norms through analysis of silhouette, construction, and styling.

BIO-130 Human Sexual Biology

(3 cr.)

Analytic Reasoning and Natural Sciences - Natural Science, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary investigation into human reproductive physiology, from development through reproduction and aging, including contraception and sexually transmitted infections, within a framework of historical context and societal lens.

BURTL-417 Social/Psychological Aspects of Clothing

(3 cr.)

Repeatable for Credit: No

Social and psychological influence of dress on individual and group behavior patterns.

EDUC-336 Multiculturalism: Issues & Perspectives

(2 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

An intensive examination of multiculturalism in U.S. and global schools and communities. Examination of the educational and cultural needs of diverse social and cultural groups. Discussion of hegemony, and cultural, race, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Strategies for educational and socioeconomic equity.

HDFS-340 Human Development: Middle to Late Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of middle and late adulthood. Analysis of intragenerational and intergenerational relationships. Critical evaluation of societal impacts on adults and their families. Develop a sensitive and informed approach to effectively working with midlife and older adults.

Prerequisite: take HDFS 124 and HDFS 330

HDFS-341 Family Caregiving to Dependent Elders

(1 cr.)

Repeatable for Credit: No

Unique challenges confronting adult children who provide care to aging parents. Government, agency, workplace and family policies and practices promoting and/or undermining family strengths and well-being.

HDFS-345 Health Care Dilemmas & Decisions for Families

(3 cr.)

Repeatable for Credit: No

Bioethical issues facing U.S. families. Selected issues provoke deep and troubling questions that will be addressed from a multidisciplinary perspective through readings, student-led discussion, lectures, and case reviews.

HDFS-426 Special Topics in the Study of Family Life

(1-3 cr.)

Repeatable for Credit: No

Family life programs and literature; individual study of problems of personal or professional interest.

- HDFS-440 Child and Family Law (3 cr.)

LIT-303 Coming of Age in Literature and Film

(3 cr.)

Racial & Ethnic Studies Category B, Arts and Humanities - Literature

Repeatable for Credit: No

Exploration of literary and filmic works that treat age, coming of age, aging, and old age. Literary and critical analysis using age studies in literature.

Prerequisite: take either ENGL-101 or ENGL-111

PHIL-220 Multicultural Philosophy

(3 cr.)

Racial and Ethnic Studies - Category A, Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Philosophical perspectives from historically underrepresented racial/ethnic groups and other cultural identities. Multiculturalism and its impact on the study of philosophy.

PSYC-270 Social Cognition and Behavior

(3 cr.)

Repeatable for Credit: No

Introduction to the theories, methods, findings and application of how we think, act and feel in everyday interactions. Includes self and social judgments/biases, attitudes, social influence, persuasion, conformity, aggression, attraction, prejudice, and helping behaviors.

Prerequisite: Take PSYC-110

PSYC-350 Culture and Psychology

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Explores relationships among culture, behaviors and mental processes. Addresses cultural commonalities and differences in cognitive processes, such as perception, memory, and language; interpersonal processes such as marriage and childrearing; and mental health problems and treatments. Psychological perspectives on multicultural issues such as race, ethnicity, gender, and sexual orientation.

Prerequisite: take either PSYC-110 or SOC-110 or ANTH-220

PSYC-360 Personality Theories and Applications

(3 cr.)

Repeatable for Credit: No

Definition of personality and analysis of historical and contemporary approaches to the study of personality. Examines personality theories, personality assessment, cultural and other group difference impacts on personality, applications of personality, and personality self-assessment.

Prerequisites: take 9 credits of PSYC, including PSYC-110

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

Specialization

Introduction

Specializations are programs of study, with carefully constructed learning goals and experiences, and evaluation procedures. While course work may be included in a specialization, students may also work to meet learning goals through internships, working with a mentor, successfully completing a proficiency examination or certification examination, or other non-classroom experiences. Courses may come from several departments and involve faculty from several disciplines.

Courses taken to complete a specialization may also fit elsewhere in a student's program of study.

Students who complete a specialization will have the specialization recorded on their transcript and will receive a certificate of completion.

Gerontology Specialization

The populations of the United States and the world are growing older, precipitating important changes in health and social policies. At present, one in eight Americans are 65 or older. These growing numbers will increase demand for individuals with gerontological skills and knowledge. The Gerontology Certification requires 20 credits, or equivalent, and includes a required core and practicum through which students study aging as an interactive process of physical, social and psychological forces. Two credits of field experience with aging-related content will be required in the student's own major area of study.

Requirements for the Specialization

Intended Outcome

The following outcomes will be achieved through required courses:

1. Identify major biological theories of aging.
2. Identify and describe the biological changes associated with aging.
3. Recognize normal and pathological changes that occur in organ systems with age.
4. Comprehend the social, political and economic aspects of aging.
5. Recognize and discard stereotypes associated with aging.
6. Work in direct or indirect service to the older population.

The following outcomes may be achieved through the student's selection of elective courses:

7. Understand lifespan concept of development and demonstrate an integrated knowledge of the aging individual within the context of family.
8. Understand the reciprocal nature of family caregiving.
9. Understand the process of grief for older adults.
10. Recognize personal and cultural attitudes toward death.
11. Identify and understand the ethical issues related to health care for the elderly.
12. Demonstrate ability to plan and develop nutritious meals and programs for older individuals which take into account physical and financial limitations.
13. Assist aging individuals, especially those with physical limitations, to find suitable and aesthetically pleasing clothing. Understand the product needs of older consumers and the promotional strategies used to market to this population.
14. Understand counseling approaches and techniques for working with aging families in order to construct models for counseling older individuals and their families.
15. Assist older individuals and their families with financial planning.
16. Identify the effects of exercise upon an older individual.
17. Explain the psychological and physiological dimensions and impact of disability from a developmental perspective.
18. Identify needs and difficulties unique to older disabled workers.
19. Identify formal support systems available to older persons with special needs or national, state and local needs.
20. Explain various understandings of the meaning of aging as portrayed in literature.
21. Identify architectural barriers confronted by the disabled traveler.
22. Understand the range of technological options available to assist frail and/ or disabled elderly.
23. Identify and describe absorption and metabolism of medications in the elderly.

Core Curriculum (8 credits)

HDFS-340 Human Development: Middle to Late Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of middle and late adulthood. Analysis of intragenerational and intergenerational relationships. Critical evaluation of societal impacts on adults and their families. Develop a sensitive and informed approach to effectively working with midlife and older adults.

Prerequisite: take HDFS 124 and HDFS 330

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (12 credits)

12 credits must be selected from the following:

BIO-220 Physiology of Disabilities

(3 cr.)

Repeatable for Credit: No

Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders.

Prerequisites: BIO-132 or BIO-234

BIO-358 Introductory Pharmacology

(2 cr.)

Repeatable for Credit: No

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination.

Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system.

Prerequisites: take BIO-132, BIO-234 or CHEM-135

BIO-360 Introduction to Neuroscience

(3 cr.)

Repeatable for Credit: No

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisites: BIO-132 or BIO-234

BUMKG-385 Target Marketing

(3 cr.)

Repeatable for Credit: No

The study and application of methods used to identify viable market segments; use of demographic, psychographic and cultural research findings to successfully market products and services to various market segments.

Prerequisites: take BUMKG-330

COMST-236 Listening

(3 cr.)

Communication Skills

Repeatable for Credit: No

Theoretical analysis and practical application of listening concepts in personal and professional relationships.

COUN-494 Counseling Older Persons

(2-3 cr.)

Repeatable for Credit: No

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

FN-102 Nutrition for Healthy Living

(2 cr.)

Repeatable for Credit: No

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition- exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well- being.

FN-212 Nutrition

(3 cr.)

Repeatable for Credit: No

Basic principles of nutrition applied to current issues in health maintenance.

Prerequisites: take BIO-234 and CHEM-115 or higher

FN-207 Medical Terminology

(1 cr.)

Repeatable for Credit: No

Medical terminology for allied health occupations. Self-paced instruction utilizing a word-building system to learn word parts used to construct or analyze new terms. Emphasis on spelling, definition, usage and pronunciation.

FN-310 Lifespan Nutrition

(3 cr.)

Repeatable for Credit: No

Nutrition concepts and concerns associated with each lifespan stage; integration of social, psychological, cultural, economic, and legislative factors to develop issue-centered approaches to meet nutrition needs.

Prerequisites: take FN-102; take one Biology course

FN-312 Nutritional Assessment

(2 cr.)

Repeatable for Credit: No

Fundamental principles and techniques of nutritional assessment, application of nutritional assessment skills, and interpretation of assessment data.

Prerequisite: take FN-212

FN-360 Nutrition Counseling: A Team Approach

(3 cr.)

Repeatable for Credit: No

Inter-disciplinary team approach to individual and group client centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention.

Prerequisite: take FN-312

FN-380 Community Nutrition

(3 cr.)

Repeatable for Credit: No

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems.

Prerequisite: take FN-212

FN-415 Nutritional Issues in Gerontology

(3 cr.)

Repeatable for Credit: No

Theory and relationships of nutrition, longevity and aging. Food and nutrition legislation for the elderly--theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly.

Prerequisite: take FN-212

HDFS-255 Lifespan Human Development

(3 cr.)

Social and Behavioral Sciences - Psychology

Repeatable for Credit: No

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

HDFS-257 Lifespan Sexuality

(3 cr.)

Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Introduction to human sexuality over the lifespan, utilizing an individual and family perspective. Development of sexual behavior, relationships, and gender characteristics from infancy to late life. Emphasis on ethical issues and implications of sexuality, gender and sexual orientation. Discussion of love and intimacy as key aspects of sexuality.

HDFS-332 Death and Bereavement

(3 cr.)

Repeatable for Credit: No

Significance of death and bereavement for the American culture, individual and family. Special consideration given to major tasks of grieving for children and adults.

HDFS-345 Health Care Dilemmas & Decisions for Families

(3 cr.)

Repeatable for Credit: No

Bioethical issues facing U.S. families. Selected issues provoke deep and troubling questions that will be addressed from a multidisciplinary perspective through readings, student-led discussion, lectures, and case reviews.

HDFS-350 Women's Relationships in Later Life

(3 cr.)

Repeatable for Credit: No

Women's experiences in later life. Impact of race, culture, class, sexual orientation upon aging. Images of aging women in contemporary literature and the media. Older women's experiences in familial relationships and friendships.

Must be Junior level or higher

HDFS-395 Special Topics in Human Development

(1-2 cr.)

Repeatable for Credit: Yes

Special topics in human development; repeatable for different topics.

Must be Junior level or higher

HDFS-423 Spirituality Across the Lifespan

(2 cr.)

Repeatable for Credit: No

Seminar discussion of autobiographical and biographical accounts of individual's spiritual experiences, beliefs and spiritual development over the life cycle.

Must be Junior level or higher

HLTH-101 Discovering Wellness

(1 cr.)

Repeatable for Credit: No

Introduction to the components and benefits of high level wellness; includes self-assessment and the development of an action plan for lifetime wellness.

HLTH-365 Physiology of Exercise

(3 cr.)

Repeatable for Credit: No

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: take BIO-132

HT-360 Tourism for Persons with Disabilities

(3 cr.)

Repeatable for Credit: No

Examination of the effectiveness of current legislation and initial strategies to purposely accommodate the needs and preferences of persons with disabilities to promote a more inclusive environment within the hospitality and tourism industry.

HWF-225 Structural Kinesiology

(3 cr.)

Repeatable for Credit: No

Musculoskeletal anatomy as it applies to human movement as well as basic kinesiological concepts. Muscle and bone identification as well as joint function and structure.

PSYC-432 Perception

(3 cr.)

Repeatable for Credit: No

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

PSYC-442 Cognitive Processes

(3 cr.)

Repeatable for Credit: No

Cognitive theories of attention, memory, language, reasoning and problem solving with applications to fields of education, vocational rehabilitation, gerontology, forensic, clinical and counseling psychology.

Prerequisite: Take PSYC-110

REHAB-230 Psychosocial Aspects of Disability

(3 cr.)

Repeatable for Credit: No

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisite: take REHAB-101

REHAB-305 Sign Language I

(3 cr.)

Communication Skills

Repeatable for Credit: No

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

REHAB-306 Sign Language II

(3 cr.)

Communication Skills

Repeatable for Credit: No

Intermediate course in manual communication with persons who are deaf. American sign language, increasing sign vocabulary and communication speed.

Prerequisite: take REHAB-305

REHAB-325 Rehabilitation and Sensory Disability

(3 cr.)

Repeatable for Credit: No

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed.

REHAB-350 Independent Living

(2 cr.)

Repeatable for Credit: No

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-355 Rehabilitation of the Older Disabled Worker

(2 cr.)

Repeatable for Credit: No

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability.

REHAB-360 Assistive Technology

(2 cr.)

Repeatable for Credit: No

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed.

REHAB-482 Sexuality and Disability

(2 cr.)

Repeatable for Credit: No

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

SOC-325 Society and Leisure

(3 cr.)

Cross-disciplinary Issues, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Explanations of recreation and leisure structures and processes from multiple theories within sociology and economics; comparative case studies of recreation and leisure; ethical implications of how recreation and leisure are encouraged and pursued in a modern capitalist system, considering various philosophical perspectives of justice.

WGS-311 Topics in Women's Studies

(1-3 cr.)

Repeatable for Credit: Yes

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies.

Prerequisite: take WGS-210

(With Permission of Director of Gerontology Specialization)

Golf Enterprise Management Specialization

This specialization will prepare students for careers in the management of golf operations. Students will demonstrate their knowledge and skills through applied activities and assessment of theoretical principles, benefiting from the "hands on, minds on" approach to learning. The specialization will enhance degree programs in General Business Administration; Hotel, Restaurant and Tourism Management; and Service Management as well as the professional careers of persons seeking employment in the golf industry. This specialization is supported by the golf industry to address the need for employees with knowledge of the industry and the skills required to manage the many aspects of a golf-related business.

Requirements for the Specialization (18-22 credits)

Intended Outcome

Students will be able to:

1. Understand major trends in the golf industry, including tourism, consumer interests, course ownership and management, and golf retail business.
2. Distinguish missions of principal national and international associations in the golf industry.
3. Understand golf facility operations from perspectives of resort, private, municipal, and daily fees courses.
4. Understand basic business principles as applicable to golf enterprise management.
5. Understand issues and strategies for developing new customers and retention of past customers of golf operations.
6. Develop basic golf skills.
7. Integrate the knowledge and skills obtained in the courses in the Golf Enterprise Management specialization through a practical experience in the golf industry.

Based upon the selective courses chosen the student will be able to:

8. Explain the concepts of raising, allocating and controlling capital for business entities; analyze the income tax system and its relevance with business decisions; analyze financial data to make investment decisions.
9. Develop a business plan that addresses the strategies required to start a small business including legal and financial aspects.
10. Demonstrate an understanding of the retail, wholesale, advertising, channels of distribution from perspectives of manufacturer to customer.
11. Analyze the retailing process, the environment within which it operates, and the institutions and functions that are performed.
12. Integrate the principles of golf resort planning and operation from the aspects of the resort concept, master planning, environmental impact, facility design, maintenance and operational management.
13. Evaluate diversified natural and man-made background tourism elements (BTE) and the preservation and incorporation of these concepts for development of tourism destinations.
14. Understand management of golf club operations from perspectives of customer service for membership, personnel, marketing, and financing.
15. Evaluate the factors involved in developing and managing a golf property including the feasibility, financing, appraisal, leases, purchase agreements and management contracts.
16. Develop interpersonal communication attitudes and skills for effective business practices.
17. Understand consumer behavior from the perspectives of psychological theories and principles.
18. Understand basic public relations strategies for community, employee, customer, and media applications.
19. Understand theories and techniques for effective management of personnel.
20. Examine the environment in which service operations such as golf operate from the perspective of both the customer and operations management.
21. Analyze the service management strategies used in the golf industry as contrasted with other economic sectors.
22. Evaluate how national and cultural constraints and expectations impact planning, execution, and evaluation of service quality in the golf industry.

Learning Activity

Required Courses (9-12 credits)

GEM-101 Introduction to Golf Enterprise Management

(2 cr.)

Repeatable for Credit: No

Overview of the B.S. in Golf Enterprise Management, the golf industry, national and international golf associations, and careers in the golf industry.

GEM-201 Principles of Golf Enterprise Management

(3 cr.)

Repeatable for Credit: No

Comprehensive survey of golf facility operations and management from perspectives of resort, private, semi-private, and daily fee courses, to include principles of business, customer service, human resource management, course design and management, retail and back shop operations, food and beverage management, and event planning.

GEM-301 Customer Development, Retention and Marketing

(3 cr.)

Repeatable for Credit: No

Current trends and programs for golf course customer recruiting and retention, marketing strategies, conducting and applying market research including database and internet marketing for golf course customer development and retention in public fee, semi-private, private and resort facilities.

Prerequisites: take GEM-101 and GEM-201, and take either BUMKG-330 or HT-344

PE-129 Golf

(1 cr.)

Repeatable for Credit: No

Fundamental principles of golf; skills, history, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish 3 golf balls for class use. A special course fee applies.

- XXX-XXX Co-op or field experience in a golf enterprise venue (1.00-4.00 cr.) **

Selective Courses (9-13 credits)

BUFIN-340 Business Finance

(3 cr.)

Repeatable for Credit: No

Study of the techniques used to make investment, financing, and dividend decisions in order to maximize the value of the firm to its owners. Topics include: analysis of financial data in making investment decisions, working capital management, capital budgeting, capital structure, cost of capital, dividend policy and international finance.

Prerequisites: take BUACT-207, STAT 130 (or higher), and MATH-123 (or higher), or consent of instructor

BUMGT-480 Entrepreneurship: Small Business Planning

(3 cr.)

Repeatable for Credit: No

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business-- start-up, buy out, franchise--legal and financial aspects. Preparing a business plan required.

Prerequisite: take BUMKG-330 or BUACT-206 or BUACT-200

BUMKG-330 Principles of Marketing

(3 cr.)

Repeatable for Credit: No

Application of current theories to market goods and services to selected markets. Includes role of marketing within a society and firm, marketing mix variables, developing marketing strategy, segmenting markets, and analyzing environmental factors that impact the marketing activities.

BURTL-127 Basic Merchandising

(3 cr.)

Repeatable for Credit: No

Analyzing the retailing process, the environment within which it operates, and the institutions and functions that are performed. A foundation for students who plan to work in retailing or related disciplines.

HT-330 Resort Planning and Operation

(3 cr.)

Repeatable for Credit: No

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management.

HT-340 Development of Tourism Attractions

(3 cr.)

Repeatable for Credit: No

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations.

Prerequisites: take HT-140 and ECON-210

HT-352 Club Management

(3 cr.)

Repeatable for Credit: No

Managing a membership, city, health and fitness, military, golf, or other social or recreation club.

Must be Junior level or higher

PM-371 Commercial/Residential Property Development and Management

(3 cr.)

Repeatable for Credit: No

Exploring factors involved in developing and managing property, both residential and commercial, including undeveloped land. Topics include feasibility studies, financing, appraisal, leases, purchase agreements and management contracts.

Prerequisite: take PM-370

PSYC-370 Interpersonal Effectiveness Training

(3 cr.)

Repeatable for Credit: No

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression; understanding others' communication; assertive rights/responsibilities coping with difficult emotions; conflict management/resolution and mediation; collaborative problem solving and teamwork; gender differences in communication style; effectiveness in relationships with culturally diverse individuals; and effectiveness in online relationships.

PSYC-377 Consumer Psychology

(3 cr.)

Repeatable for Credit: No

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer

problems, and their solution.
Prerequisite: Take PSYC-110

PSYC-379 Public Relations

(2 cr.)

Repeatable for Credit: No

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

INMGT-210 Service Operations Management

(3 cr.)

Repeatable for Credit: No

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

SRVM-354 Services Marketing Management-Ht

(3 cr.)

Repeatable for Credit: No

Marketing management concepts, issues and terminology unique to the service sector. Strategies used by service marketers will be analyzed and contrasted with other economic sectors.

Prerequisites: take HT-344 or BUMKG-330

SRVM-420 International Service Concepts

(3 cr.)

Repeatable for Credit: No

National and cultural constraints and expectations that impact planning, execution, and evaluation of service quality. Cultural, business, managerial and behavioral foundations supporting success in an international service context.

Prerequisite: take SRVM-111

Evaluation

*Successful completion of required courses with a grade of "C" or better.

**Successful completion of co-op or internship with a grade of "C" or better. The student will be evaluated by the employer and a faculty mentor. The student will complete a final report that provides a general overview of the golf enterprise venue including its policies and procedures, a description of the job duties performed, the relationship of the courses in the specialization to the experience and a self evaluation of performance in the position.

***Successful completion of selective courses with a grade of "C" or better.

Health Science Occupations Education Specialization

This specialization is intended for licensed secondary teachers who are teaching or interested in teaching health science occupation (HSO) related coursework. Individual school districts determine the licensure needed by an individual teaching HSO related coursework. Completion of the specialization does not result in Wisconsin Department of Public Instruction certification. Courses are offered online. The field experience will take place in a health care facility.

Requirements for the Specialization (12 credits)

Intended Outcome

Demonstrate knowledge, understanding, and competence in the following:

1. The demands and responsibilities of working in a health care facility
2. National Health Care Skill Standards
3. Curriculum planning in health science occupations
4. Organizational structure and administration of health care and role of health care professionals
5. Student career development
6. Organization and supervision of work-based learning

Learning Activity

CTE-398 Field Experience

(1-2 cr.)

Repeatable for Credit: No

Department Consent

CTE-310 Foundations of Health Sciences Occupations Education

(3 cr.)

Repeatable for Credit: No

The philosophy, organization and administration of health science occupations education at the national, state and local level; includes current topics in health science occupations education with application for personnel in the field.

CTE-320 Careers in Health Care

(3 cr.)

Repeatable for Credit: No

Investigation of health care delivery system, services, occupations, related health services, and the health sciences career clusters.

CTE-330 Curriculum Planning in Health Science Occupations

(3 cr.)

Repeatable for Credit: No

Competency-based and individualized approaches to principles of curriculum and course construction, study of curriculum terminology, methods of selecting and organizing content for health science occupations educators.

CTE-360 Coordination of Work-based Learning (WBL) Programs

(3 cr.)

Repeatable for Credit: No

Philosophy, planning, initiation, organization, coordination, evaluation, and teaching techniques of Cooperative Career and Technical Education (C-CTE) programs. Special emphasis on roles, responsibilities and duties of the cooperative teacher-coordinator.

Evaluation

* Successful completion of courses is required. Artifacts for the professional portfolio are identified on course outlines.

International Studies Specialization

As the world moves toward the 21st century, people in all countries and cultures are increasingly interacting with each other. Many UW-Stout graduates find work in multinational businesses and international tourism. Others go into the Peace Corps or other types of international volunteer work. Many more use their leisure time for travel or study abroad. Even those who never venture abroad find their professional, civic and personal lives impacted by the expansion of international relationships. The International Studies specialization at UW-Stout is flexibly designed to offer students an opportunity to better understand other cultures and international relationships, and to compete more successfully in the workplace. The specialization requires all students to complete six core courses or their equivalents, then select an option that best meets their interests and needs. All students in the specialization are strongly encouraged to plan work or study experience abroad.

Requirements for the Specialization

Intended Outcome

1.0 Demonstrate an understanding of international relations.

1.1 Show an understanding of concepts used to analyze international relations.

1.2 Identify participants and patterns of international relationships.

1.3 Identify and analyze global problems arising from international relations.

2.0 Demonstrate an understanding of cultural variation and analysis, or demonstrate an understanding of the modern world within its historical context.

2.1 Show an understanding of concepts used to analyze cultural variation or develop an introductory knowledge of the modern world

based on its historical antecedents.

2.2 Identify and begin to understand the complexity of cultural and political variations that exist in the world.

2.3 Demonstrate a cross-cultural approach to analyzing international problems. ANTH-220 Cultural Anthropology or

3.0 Demonstrate an understanding of the geography and peoples of the world.

3.1 Illustrate an understanding of geographical concepts.

3.2 Identify the major components of the physical setting in which cultures exist and international relations occur.

3.3 Identify and analyze the relationships between the physical world, on the one hand, and cultural variation and international relations on the other.

4.0 Demonstrate an introductory knowledge of a second language.

5.0 Demonstrate an introductory knowledge of the history, culture and/or social institutions of a country or region other than one's own.

6.0 Demonstrate an introductory knowledge of intercultural communications.

7.0 Demonstrate the integration of knowledge with experience in another country or culture.

7.1 Study or work in another culture.

7.2 Show an appreciation of the diversity in cultural values from culture to culture.

7.3 Demonstrate an integration of intercultural experiences with other knowledge about international relations.

Learning Activity

POLS-340 International Relations

(3 cr.)

Social and Behavioral Sciences - Political Science

Repeatable for Credit: No

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems.

HIST-210 Modern World History

(3 cr.)

Global Perspective, Arts and Humanities - History

Repeatable for Credit: No

Analysis of modern world history from the perspective of global actors and cultures that have experienced profound changes during the past 500 years. Formulation of ideas and positions on questions of change. Development of critical arguments on topics that include technology, globalization, colonialism, capitalism, wealth, poverty, war, conflict, peace, and diversity.

GEOG-104 World Geography

(3 cr.)

Global Perspective, Social and Behavioral Sciences - Geography

Repeatable for Credit: No

An introduction to how the discipline of geography makes sense of the world, its diverse people, places, and regions. Emphasis is on the interaction between culture and landscape and how those interactions create unique places.

- XXX-XXX Language Studies (8 cr.) **

Equivalent of 8 credits of college-level study of one foreign language. High school language study may count towards this requirement. (*International students consult with specialization adviser.*)

- XXX-XXX Area Studies (2-3 cr.) *

(*See specialization advisor for a list of acceptable courses focusing on one country or cultural region of the world.*)

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

BUINB-346 Seminar

(3 cr.)

Global Perspective

Repeatable for Credit: No

Theory and practice of doing business in India by experiencing the culture first-hand. (Study abroad)

- XXX-XXX Study Abroad/International Field Experience or Co-op or Internship (1-2 cr.) *

(Approved Independent Study/Practical International Experience.)

Specialized Learning Objectives

Option 1: International Business

1.1.0 Demonstrate an understanding of international business practices.

1.1.1 Demonstrate an understanding of international trade, development, marketing, finance business law, management and/or transportation.

Select 9 credits from the following:

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

ECON-480 International Economics

(3 cr.)

Repeatable for Credit: No

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics

related to trade models, tariffs, exchange rates and balance of payments.
Prerequisite: take ECON-210

BUINB-338 International Logistics

(3 cr.)

Repeatable for Credit: No

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills.

Prerequisites: take BUSCM-338

BUINB-485 International Marketing

(3 cr.)

Repeatable for Credit: No

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms.

Prerequisites: take BUMKG-330

BUINB-489 International Business Policies

(3 cr.)

Repeatable for Credit: No

Students develop the ability to solve business problems in the international arena using a scientific approach to decision making by studying business cases on international policy formulation and administration, manufacturing, marketing, finance, accounting, personnel and public relations functions.

Prerequisites: Take any BUINB course; and take either BUMGT-304 or BUMKG-330 or BUFIN 340 ; and take either ECON-201 or ECON-210

BUINB-488 International Business Practicum

(3 cr.)

Repeatable for Credit: No

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability.

Department Consent

Prerequisite: take BUINB-485

BUINB-367 International Management

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: Take BUMGT-304

Option 2: International Tourism

- 2.1.0 Demonstrate a knowledge of the international components of the tourism industry.
- 2.1.1 Identify the economic role of tourism in a global economy.
- 2.1.2 Identify the role of government in planning/development of tourism.
- 2.1.3 Analyze current issues related to international tourism.
- 2.1.4 Analyze/become familiar with hospitality and tourism publications.
- 2.2.0 Assess quality and quantity of selected tourism resources throughout the world.
- 2.2.1 Analyze spatial patterns of connection, circulation, interaction, transportation and communication associated with the geography of tourism.
- 2.2.2 Analyze international tourism's locational trends.
- 2.2.3 Illustrate world map reading skills related in tourism
- 2.3.0 Analyze current tourism topics.

Select 7-9 credits from the following:

HT-140 Principles of Tourism

(3 cr.)

Repeatable for Credit: No

Scope, structure, and function of tourism as an industry and a sociocultural phenomenon; industry components and the importance of maximizing costs to its stakeholders.

HT-440 Sociocultural Systems of Tourism

(3 cr.)

Repeatable for Credit: No

Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents.

Must be Senior level or higher

HT-481 Special Problems in Hospitality and Tourism

(1-3 cr.)

Repeatable for Credit: Yes

Option 3: Language Studies

- 3.1.0 Demonstrate the ability to communicate in a second language.

Select 16 credits from the following:

(8 additional credits in the same language as the core requirement.)

Equivalent of two years of college-level study in the same foreign language.

Option 4: Area Studies

4.1.0 Demonstrate an understanding of the history, cultural background and social institutions of a culture, country or region other than one's own.

Select 8-9 credits from the following:

EDUC-336 Multiculturalism: Issues & Perspectives

(2 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

An intensive examination of multiculturalism in U.S. and global schools and communities. Examination of the educational and cultural needs of diverse social and cultural groups. Discussion of hegemony, and cultural, race, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Strategies for educational and socioeconomic equity.

EDUC-376 Cross-Cultural Field Experience

(1 cr.)

Repeatable for Credit: No

Supervised field experience in an educational setting with diverse learners to increase awareness, understanding, sensitivity, and appreciation for ethnic and cultural diversity. The acquisition of knowledge, skills, and professional dispositions necessary for educators to facilitate learning for all students are emphasized.

Benchmark I Completed

EDUC-400 Workshop: Special Topics In Education

(1-3 cr.)

Repeatable for Credit: Yes

Current specialized topics studied through experimental activities.

EDUC-402 Global Perspectives for Educators

(3 cr.)

Global Perspective

Repeatable for Credit: No

Strategies for infusing global perspectives into the classroom for those working in globalized organizations. Methodology, materials and instructional strategies necessary for effective implementation of global education in schools and individual classrooms as well as within global organizations. Topics/issues related to globalization to develop a foundation from which teachers and other leaders in organizations can draw ideas for their specific needs.

REHAB-305 Sign Language I

(3 cr.)

Communication Skills

Repeatable for Credit: No

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

REHAB-306 Sign Language II

(3 cr.)

Communication Skills

Repeatable for Credit: No

Intermediate course in manual communication with persons who are deaf. American sign language, increasing sign vocabulary and communication speed.

Prerequisite: take REHAB-305

- XXX-XXX Foreign language taken at Stout (*FREN, GER, HMON, SPAN*) or other foreign languages transferred in (2-4 cr.) *

LIT-273 American Multicultural Literature

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - Literature

Repeatable for Credit: No

American multicultural literature, focusing on Hispanic, African, Asian, and Native American writers.

Prerequisite: take either ENGL-101 or ENGL-111

PHIL-220 Multicultural Philosophy

(3 cr.)

Racial and Ethnic Studies - Category A, Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Philosophical perspectives from historically underrepresented racial/ethnic groups and other cultural identities. Multiculturalism and its impact on the study of philosophy.

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

SOC-375 Sociology Of Minority Groups

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

- XXX-XXX Student teaching, co-op, field experience or independent study (3-4 cr.) *

Option 5: International Education

- 5.1.0 Illustrate an understanding of the sociopolitical elements of education in a global context.
- 5.2.0 Demonstrate an understanding of the role of education in building a community of learners for a shared global future.
- 5.3.0 Show a receptivity to multicultural perspectives.
- 5.4.0 Demonstrate an awareness and understanding of the global condition and of global developments and trends.

Select 8-9 credits in addition to the core area studies requirement:

Specialization adviser-approved courses focusing on one country, one ethnic/cultural group or cultural region of the world. (*For example, the following courses could serve as an "area studies" grouping: HMON-121 and -122 Practical Hmong I and II; SOC-350 Sociology of Hmong Culture; and ANTH-240 Hmong Studies and Contemporary Life. These courses would total 8 credits.*)

Option 6: Apparel Design and Development; Retailing

- 6.1.0 Demonstrate an understanding of international economic trends influencing textiles and apparel-related areas.
- 6.2.0 Illustrate an understanding of international historical influences on present day fashion
- 6.3.0 Analyze international sourcing and marketing strategies for apparel products and manufacturing.
- 6.4.0 Demonstrate an understanding of international business practices through formal course work.

Select 9-12 credits from the following:

BURTL-319 International Economic Trends in Textiles and Clothing

(3 cr.)

Repeatable for Credit: No

Economic importance of the textile and apparel industries in the United States and the world.

Prerequisites: take APRL 167 and ECON-210

APRL-211 History and Culture of Fashion

(3 cr.)

Repeatable for Credit: No

A study of the changes in fashion including trends, designers and cultural norms through analysis of silhouette, construction, and styling.

BURTL-417 Social/Psychological Aspects of Clothing

(3 cr.)

Repeatable for Credit: No

Social and psychological influence of dress on individual and group behavior patterns.

APRL-405 International Study Tour to the Fashion Industry

1-(6 cr.)

Repeatable for Credit: Yes

Tour of international centers of clothing, textiles, and related arts. Study of the cultural patterns. Program includes lectures by consultants and seminars on the various phases of the fashion and fabric industries.

Department Consent

BUINB-260 International Business

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Detailed analysis of international business functions including the global economy, financial systems, political structures, culture, and ethical implications of international business on sociocultural systems.

Must be Sophomore level or higher

BUINB-367 International Management

(3 cr.)

Global Perspectives

Repeatable for Credit: No

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: Take BUMGT-304

BUINB-485 International Marketing

(3 cr.)

Repeatable for Credit: No

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms.

Prerequisites: take BUMKG-330

Evaluation

*Exams, papers and reports - 2.0 grade point average.

**For Language Studies, certification of proficiencies may be obtained from the language faculty.

Training and Human Resource Development Specialization

Education is not the sole province of schools. Programs of instruction are conducted by many businesses, industries, in the military, and by other groups and organizations. Planning and providing this instruction is the province of professionals usually identified as "trainers." In our technological society, training programs have become increasingly complex and demands on trainers have increased. Greater expertise on their part is required. This all-university specialization addresses needs for preservice and in-service education for trainers.

This program is intended for students who have expertise in areas such as engineering, technology, education, business, government, military and labor, and who desire to become involved in development and implementation of training programs. Contact the specialization director for further information.

Requirements for the Specialization

Note: Courses numbered 700 and greater are open to graduate students only.

Intended Outcome

1. Introduction to concepts of training and human resource development.
2. Design and develop training activities.
3. Implement and facilitate training activities.
4. Evaluate the effectiveness of training activities.
5. Apply concepts of training in the professional area.

Learning Activity

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

Select one of the following:

CTE-370 Instructional Technology - Education and Training

(2 cr.)

Repeatable for Credit: No

Technological applications to education, training and instruction. Emphasis on examining, developing and evaluating various technologies and their appropriateness for the curriculum and training applications.

INMGT-400 Organizational Leadership

(3 cr.)

Repeatable for Credit: No

Addresses the leader's role in accomplishing organizational objectives through the management and development of followers. Concepts of organizational and individual behavior serve as a foundation for the development of leadership skills such as communication, motivation, leading, team building, building credibility, and conflict management.

Must be Senior level or higher

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

Complete a course from the appropriate school in curriculum development or course construction (2-3 credits) such as:

MBE-401 Marketing Education Curriculum

(2-3 cr.)

Repeatable for Credit: No

Program, course and lesson-level curriculum development skills. Assessment systems, strategies, design elements, and test development skills.

Prerequisites: take MBE-301, MBE-311, and MBE-312, and completion of Benchmark I

CTE-438 Course Construction in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Focus on curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates' CTE program area. Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

Prerequisite(s): Benchmark I is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

Select one of the following:

MBE-301 Marketing and Business Education Methods

(3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching in career and technical Business and Marketing subjects.

Prerequisites: MBE 101 and Passed Background Check

TRHRD-370 Training Methods in Business and Industry

(2 cr.)

Repeatable for Credit: No

Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training sessions presentations.

CTE-405 Methods of Teaching Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching career and technical education.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

No prerequisite for CTET students who enroll for 2 credits.

Additional Courses:

CTE-440 Instructional Evaluation in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to instructional evaluation for career and technical educators. Prepares educators to design and implement performance-based assessment in diverse formats and settings that evidence student learning.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

Prerequisite(s): Benchmark I is required for MBE, FCSE, and TECED students, who much enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

- TRHRD-XXX Co-op/Internship in Training (1-8 cr.) *****

Evaluation

*Successful completion of courses (6 credits).

**Successful completion of courses (minimum 4 credits).

***Successful completion of a course (*minimum 2 credits*).

****Successful completion of the course (*2 credits*).

*****Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the UW-Stout supervisor. Completion of a field report is required.

Professional Development Certificate

Introduction

UW-Stout offers professional development certificate programs in addition to its traditional majors and minors to meet the needs of those who wish to obtain additional knowledge and skills needed for personal growth and professional advancement.

While not a substitute for a degree or diploma, the certificate is an alternative credential for individuals seeking to obtain new knowledge and skills or to update their knowledge and skills in a specific area. Typically, a certificate is earned by completing a set of limited, well-defined learning outcomes focused on new or emerging processes or new knowledge and principles applied to practical problems or issues.

These course sets lead to a certificate only. If you're interested in a bachelor's degree, please refer to the degree programs found elsewhere in this bulletin.

Additional information about professional development certificate programs is available online at www.uwstout.edu/programs/pdc.

Applied Ethics Certificate

The Applied Ethics certificate is designed to empower professionals to apply ethical theory and reasoning in the workplace. The "ethical workplace" has emerged as an attainable ideal; understanding that ethics underscores all personal and professional interactions is essential to leaders in every profession.

Our approach is to bridge disciplines and professions in a systematic exploration and analysis of ethical issues facing individuals across professions and cultures. The program provides a core which introduces students to ethical principles, frameworks, and models. Courses cover engagement in ethical debate in a multicultural and globally diffused environment, encouragement of individual, professional, and civic responsibility to promote ethical leadership and enables students to provide coherent and compelling reasons justifying personal ethical stances and decisions.

Twelve credits are required for the Certificate. Students must maintain a "C" or higher in each of the four courses in order to be given credit toward the certificate.

Required Courses

PHIL-235 General Ethics

(3 cr.)

Arts and Humanities - Philosophy, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Ethical valuing process: principal ethical theories and their application to common human problems.

- XXX-XXX Capstone Experience (3 cr.)

Additional Courses

Students will choose 6 additional credits from an approved listing to complete certificate requirements. See the University

Requirements: Social Responsibility and Ethical Reasoning (3 credits) website.

Autism Spectrum Disorder Specialist Certificate

The Autism Spectrum Disorder Specialist certificate is designed to provide teachers, counselors, and other professionals with specialized training in working with students with autism. Graduates possess skills needed to assess students with ASD, implement individualized interventions, and evaluate programs for effectiveness.

Required Courses

SPED-472 Foundations of Autism Spectrum Disorder

(3 cr.)

Repeatable for Credit: No

A foundation for understanding individuals with Autism spectrum Disorders (ASD) and its effect on the individuals' life and learning, through a comprehensive overview of the history, current literature, and best practices.

SPED-473 Behavioral Interventions and Positive Behavior Supports

(3 cr.)

Repeatable for Credit: No

Study functional behavioral assessment (FBA) and behavioral intervention planning (BIP) for individualized behavior problems for students with Autism Spectrum Disorder and related disabilities in the PK-12 educational setting. Focus on assessment skills to produce data-driven environmental modifications, pro-social replacement behaviors, consequence strategies, and home-school collaboration.

SPED-474 Augmentative Communication and Social Skills

(3 cr.)

Repeatable for Credit: No

Review current literature in supporting communication and social skills for individuals with Autism Spectrum Disorder; including best practices in assessment and implementation of augmentative and alternative communication interventions.

SPED-475 Assessment and Methodology of Autism Spectrum Disorder

(3 cr.)

Repeatable for Credit: No

Critical review of assessment methods used in the identification of Autism Spectrum Disorder. Formal and informal assessment results are utilized to create an intervention plan that is responsive to the student's individual needs.

Cisco Certified Network Associate (CCNA) Exam Preparation Certificate

The Cisco Certified Network Associate (CCNA) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

Required Courses (12 credits)

- ITM-131 Network Operating System Fundamentals (2 cr.)

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

- ITM-143 Networking Fundamentals III (2 cr.)
- ITM-144 Networking Fundamentals IV (2 cr.)

Exam: Cisco CCNA

Cisco Certified Network Professional (CCNP) Exam Preparation Certificate

The Cisco Certified Network Professional (CCNP) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

Required Courses (12 credits)

CNIT-441 Scalable Internetworks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT-134

Exam: Cisco Routing

ITM-442 Remote Access Networks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build remote access networks to interconnect central sites to branch offices and home offices. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT-441

Exam: Cisco Remote Access

CNIT-443 Multi-Layer Switched Networks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Build multi-layer switched networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT 134

Exam: Cisco Switching

CNIT-444 Internetwork Troubleshooting

(3 cr.)

Repeatable for Credit: No

Specialization course for the Cisco CCNP professional certification. Students will learn to troubleshoot internetworks. Students are required to pass the associated Cisco certification examination.

Prerequisites: Take CNIT-441 and CNIT-443

Exam: Cisco Support

Cyber Security & Cyber Defense - Computer Networking Certificate

Required Courses (40 credits)

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

CNIT-301 Linux Systems & Network Administration

(3 cr.)

Repeatable for Credit: No

A technical overview of the Linux operating system, including: hands-on experience with commands, files, services and tools. Topics include basic Linux commands, files and directories, text editing and scripting; installation and maintenance of Linux servers in the corporate world; installation and configuration of services and applications of Linux servers.

Prerequisite: take either ITM/CNIT-133 OR CS-144

CNIT-361 Workstation And Server

(3 cr.)

Repeatable for Credit: No

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisite: take CNIT 133

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

CNIT-441 Scalable Internetworks

(3 cr.)

Repeatable for Credit: No

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination.

Prerequisite: take CNIT-134

CNIT-484 Advanced Network Security and Auditing

(3 cr.)

Repeatable for Credit: No

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: take CNIT 301 , CNIT-383, and either CNIT 361 or CS 480

CNIT-490 Information Technology Management Capstone

(3 cr.)

Repeatable for Credit: No

Work with an outside organization in a team environment utilizing concepts of design, brainstorming, problem solving, team work, creativity, evaluation, and present findings in oral and written formats.

Prerequisite: take CNIT 444 and CNIT 484

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-248 Web and Internet Programming

(3 cr.)

Repeatable for Credit: No

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisite: Take CS-141 or CS-144

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

Cyber Security & Cyber Defense - Secure Software Development Certificate

Required Core (61-62 credits)

CNIT-133 Networking Fundamentals I

(3 cr.)

Repeatable for Credit: No

Internet Protocol addressing, routing and switching fundamentals.

CNIT-134 Networking Fundamentals II

(3 cr.)

Repeatable for Credit: No

Advanced addressing, switched networks, routing protocols, access lists and wide area network.

Prerequisite: take CNIT-133

CNIT-301 Linux Systems & Network Administration

(3 cr.)

Repeatable for Credit: No

A technical overview of the Linux operating system, including: hands-on experience with commands, files, services and tools. Topics include basic Linux commands, files and directories, text editing and scripting; installation and maintenance of Linux servers in the corporate world; installation and configuration of services and applications of Linux servers.

Prerequisite: take either ITM/CNIT-133 OR CS-144

CNIT-361 Workstation And Server

(3 cr.)

Repeatable for Credit: No

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisite: take CNIT 133

CNIT-382 Network Systems Design

(3 cr.)

Repeatable for Credit: No

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks.

Prerequisite: take CNIT-134

CNIT-383 Introduction to Network Security

(3 cr.)

Repeatable for Credit: No

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues.

Prerequisite: take CNIT-134

CNIT-484 Advanced Network Security and Auditing

(3 cr.)

Repeatable for Credit: No

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: take CNIT 301 , CNIT-383, and either CNIT 361 or CS 480

CS-144 Computer Science I

(4 cr.)

Analytic Reasoning and Natural Sciences - Analytic Reasoning

Repeatable for Credit: No

Problem solving using a high-level programming language. Input/output, control structures, functions, arrays, memory management, structured data, documentation and testing.

CS-145 Computer Science II

(4 cr.)

Repeatable for Credit: No

Object-oriented programming, debugging, documentation, graphical user interface, event handling, testing, input/output, and problem solving in the Java programming language.

Prerequisite: take CS-144 or CS 141

CS-244 Data Structures

(4 cr.)

Repeatable for Credit: No

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search

trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.
Prerequisite: take CS 144 and CS-145

CS-254 Algorithm Design and Analysis

(3 cr.)

Repeatable for Credit: No

Introduction to the design and analysis of algorithms. Asymptotic analysis of time complexity. Proofs of correctness. Dynamic programming, greedy algorithms, amortized analysis, and string operations. Concept of NP-completeness.

Prerequisite: take CS-244 & either MATH 154 or MATH 157

CS-324 Database Systems Manipulation and Design

(3 cr.)

Repeatable for Credit: No

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases.

Prerequisite: take CS-244

CS-358 Software Engineering Principles

(3 cr.)

Repeatable for Credit: No

Study of the software development life cycle, software engineering practices including waterfall and agile, requirements engineering, user-centric design practices, program testing, documentation, and team management and organization. Students will work on a software project to develop requirements and design a prototype.

Prerequisite: take CS-244 & either CS 248 or CS 324

CS-441 Computer Architecture

(4 cr.)

Repeatable for Credit: No

Fundamentals in modern computer technology, focusing on hardware. Design, operation, and interconnections of the major computer system components consisting of the CPU, memory, and I/O modules.

Prerequisite: take CS-244

CS-442 Systems Programming

(3 cr.)

Repeatable for Credit: No

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software.

Prerequisite: take CS 441

CS-480 Introduction to Computer Security

(3 cr.)

Repeatable for Credit: No

Computer security problems and challenges, relationship between policy and security, cryptography, implementation of requirements imposed by policies, use of standards to ensure that the system will meet its goals, system vulnerabilities analysis and detection, intrusion detection, application of desired policy and procedures to support the policy.

Prerequisite: take CS 244

ICT-103 Information and Communication Technologies

(3 cr.)

Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Basic technical concepts, principles, models, management and foundational logic of information and communication technologies (ICT). Examines history, current trends and future of ICT. Review of global ICT standards and regulations. Use of contemporary digital ICT for personal, educational and professional growth.

ICT-215 Cybertechnology Ethics

(3 cr.)

Global Perspective, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Cyberethics issues, framework for ethic complexities and nuances with information-technology globally including privacy, crime intellectual property, and internet regulation.

MATH-180 Foundations of the Language of Mathematics

(4 cr.)

Repeatable for Credit: No

Conceptual foundations of mathematics and the language of mathematics. Logical rules of inference, statement forms, methods of proof, universal and existential quantifiers, abstraction and definition, set theory, relations, functions and cardinality. Proofs involving the above concepts and applications of the concepts and methods of proof to particular abstract mathematical objects.

Prerequisite: take either MATH-151, MATH-153 or MATH-156; not for students who took MATH-270

MATH-270 Discrete Mathematics

(3 cr.)

Repeatable for Credit: No

Exploration of sets, relations, functions, formal logic, proof techniques, counting techniques, graphs, recurrence relations, and generating functions. Applications in mathematics and computer science.

Prerequisites: take either MATH-153 or MATH-156; not for students who took MATH-180

Enterprise Technology Certificate

Enterprise technologies are umbrella systems with common data organization, storage, and data analysis tools interconnected through a computing network. The certificate provides participants with knowledge of the uses and impacts of enterprise technology in accordance with contemporary business practices. Professionals develop relevant understanding of policy, issues, and standards and implications on national and global communities.

Required Courses (9 credits)

ICT-305 Information Systems for Enterprise

(3 cr.)

Repeatable for Credit: No

Information systems concepts and technology for contemporary enterprise. Includes hardware, software, networks and enterprise-specific information systems. Emphasis on business-prudent solutions/products based on clearly identified needs/goals.

Prerequisite: take ICT-103

ICT-401 Information Technology Policy and Audit

(3 cr.)

Repeatable for Credit: No

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take ICT-305 and BUACT-206

ICT-405 Enterprise Technology Seminar

(3 cr.)

Repeatable for Credit: No

Trends in enterprise technology, including: systematic development processes to solve business problems and support business processes, identification and use of contemporary enterprise technology solutions, sources of enterprise technology support, training and information and enterprise technology credentialing and career opportunities.

Prerequisite: take ICT 355

Event and Meeting Management Certificate

The Event and Meeting Management certificate is designed to teach the skills and knowledge base necessary to be successful in the events and meetings industry. The certificate will help students understand the key areas of the industry and to possess the knowledge to manage meetings, events, and trade shows. The certificate will set the ground work for students and professionals working towards the Certified Meeting Professional (*CMP*) designation.

Required Courses (12 credits)

HT-351 Hospitality Convention/Meeting Planning

(3 cr.)

Repeatable for Credit: No

The roles and responsibilities of professional hospitality meeting planners and hotel convention sales/service managers are examined for purposes of planning or hosting a major convention, or a corporate, association, or special group meeting event.

HT-442 Trade Show Management

(3 cr.)

Repeatable for Credit: No

Investigate and apply the process and procedures to plan and manage a trade show from a developer and user perspective. Define the process to select and develop, arrange for site and support services leading to a profitable trade show.

HT-445 Event Management

(3 cr.)

Repeatable for Credit: No

Planning, organization and the management of specialty and community events will be investigated. Emphasis is placed on the design, internal management systems and post event evaluation.

GEM-445 Sports Event Management

(3 cr.)

Repeatable for Credit: No

Planning, organization and the management of events will be investigated for the hospitality, tourism and golf industries. Emphasis is placed on the design, internal management systems and post-event evaluation.

Must be Sophomore level or higher

HT-447 International Convention and Meeting Management

(3 cr.)

Repeatable for Credit: No

Investigate the process and procedures to plan for meetings in other countries.

Human Resource Management Certificate

The Human Resource Management certificate program provides a broad base of knowledge to professionals seeking to expand their management competencies. The coursework is essential to prepare for the Professional Human Resource (*PHR*) exam, developed by the Society for Human Resource Management (*SHRM*) and recognized nationally as a significant credential for professional advancement in human resources. Competencies required by human resources professionals are best defined by content of the SHRM examination, and they are the same competencies covered in the coursework required for the certificate. The certificate in no way implies or guarantees that the student will pass the exam but should be seen as an important professional accomplishment.

Required Courses

The following courses provide the student with knowledge in all of the tested areas:

PSYC-381 Psychology in the Workplace

(3 cr.)

Repeatable for Credit: No

Application of psychological principles to the workplace, with emphases on assessment of cognitive, physical and interpersonal abilities, employee selection, training and development methods, and development of organizational methods for improved motivation, job satisfaction, leadership and organizational effectiveness.

PSYC-382 Human Resource Management

(3 cr.)

Repeatable for Credit: No

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse work force employed in domestic and international settings.

PSYC-403 Management of Employee Reward Systems

(3 cr.)

Repeatable for Credit: No

Issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits.

Prerequisite: take PSYC-382

PSYC-485 Recruitment & Selection of Human Resources

(3 cr.)

Repeatable for Credit: No

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development.

Prerequisite: take PSYC 381 or PSYC-382

TRHRD-360 Training Systems in Business and Industry

(3 cr.)

Repeatable for Credit: No

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non- education majors.

ECON-421 Collective Bargaining & Labor Relations

(2 cr.)

Repeatable for Credit: No

Introduction to collective bargaining in the U.S.; formation, substance and administration of a labor agreement, current labor law, role of National Labor Relations Board.

Prerequisites: take either ECON-201 or ECON-210

RC-381 Principles of Occupational Risk Control/Safety

(2-3 cr.)

Repeatable for Credit: No

Introduction to risk control/safety approaches intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards that promote the systematic anticipation, identification, analysis and control of risks that are inherent to the operation.

Must be Junior level or higher

Practical Skills for Beginning K-12 Career and Technical Educators Certificate

Program Requirements (15 credits)

Required Courses (12 credits)

CTE-304 Introduction for K-12 Career and Technical Educators

(1 cr.)

Repeatable for Credit: No

Introductory course focused on becoming a teacher in the disciplines of Marketing Education, Business Education, Family and Consumer Sciences and Technology Education within K-12 schools.

Prerequisites: Enrollment in Certificate for Practical Skills for Beginning K-12 CTE Educators

CTE-405 Methods of Teaching Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to methods of teaching career and technical education.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

No prerequisite for CTET students who enroll for 2 credits.

(3 credits required)

CTE-438 Course Construction in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Focus on curricula design principles and practices in Career and Technical Education (CTE). Content will challenge personally held

ideas, assumptions, and practices related to curricula and its stakeholders. The products of learning include standards-based course, lesson, and assessment tools that are anchored to the mission, goals, and standards specific to the teacher-candidates' CTE program area. Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits.

Credit Requirements

- 3 credit option required for MBE Distance Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

(3 credits required)

CTE-440 Instructional Evaluation in Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Competency-based and individualized approach to instructional evaluation for career and technical educators. Prepares educators to design and implement performance-based assessment in diverse formats and settings that evidence student learning.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

Prerequisite(s): Benchmark 1 is required for MBE, FCSE, and TECED students, who must enroll for 3 credits. No prerequisite for CTET students who enroll for 2 credits.

(3 credits required)

EDUC-415 Classroom Management

(2-3 cr.)

Repeatable for Credit: No

Technique and theory for motivating PreK-grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences.

(2 credits required)

Selectives (3 credits)

Choose one of the following courses.

CTE-302 Principles of Career and Technical Education

(2-3 cr.)

Repeatable for Credit: No

Importance of career and technical education (workforce education) to American society and the individual. Actively apply principles into practice. Formulate a philosophy of workforce education based on personally held principles and demonstrated practices.

Credit Requirements

- 3 credit option required for MBE Distance Delivery
- 2 credit option required for MBE On-Campus Delivery

(3 credits required)

CTE-360 Coordination of Work-based Learning (WBL) Programs

(3 cr.)

Repeatable for Credit: No

Philosophy, planning, initiation, organization, coordination, evaluation, and teaching techniques of Cooperative Career and Technical Education (C-CTE) programs. Special emphasis on roles, responsibilities and duties of the cooperative teacher-coordinator.

EDUC-303 Educational Psychology

(3 cr.)

Repeatable for Credit: No

Psychological aspects of learning, teaching, and assessment processes within educational contexts. Focus on the principles of learning and cognition, human development, individual and group differences, teaching and assessment processes.

Must be Sophomore level or higher

SPED-430 Inclusion of Students with Exceptional Needs

(3 cr.)

Repeatable for Credit: No

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

Professional Writing Certificate

The on-campus Professional Writing Certificate offers a career focused educational experience that prepares students to solve communication problems in the real world.

Professional Writing Certificate (15 credits)

Tier One (3 credits)

Choose one of the following courses:

ENGL-215 Foundations of Technical Communication

(3 cr.)

Repeatable for Credit: No

Overview of major writing and documentation forms and conventions used in technical communication, including document design strategies, technical reports, and other professional texts.

Prerequisites: ENGL 102 or ENGL 112 or ENGL 113

ENGL-320 Professional and Technical Communication

(3 cr.)

Repeatable for Credit: No

Introduction to workplace communication and key professional and technical genres adaptable to a wide variety of academic and vocational disciplines.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-410 Scientific Communication

(3 cr.)

Repeatable for Credit: No

Written and oral communication strategies for scientific careers, including the creation of data displays, proposals, and technical reports to articulate research methodologies and disseminate findings for broad audiences.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

Tier Two (9 credits)

Choose three of the following courses:

ENGL-125 Professional Writing Elements of Style

(3 cr.)

Repeatable for Credit: No

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisite: take either ENGL 101 or ENGL 111

ENGL-345 Usability Design and Testing

(3 cr.)

Repeatable for Credit: No

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and

application of usability testing to demonstrate its value and importance.

ENGL-371 Rhetoric and Style: Strategies of Argumentation

(3 cr.)

Repeatable for Credit: No

Examines classical rhetoric to identify enduring elements and concerns as well as critical tensions and conflicts. Students will obtain the vocabulary and conceptual understanding of the rhetorical tradition with attention to development both oral and written arguments.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-385 Document Design

(3 cr.)

Repeatable for Credit: No

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles.

Tier Three (3 credits)

Choose one of the following courses:

ENGL-225 Editing Processes and Practices

(3 cr.)

Repeatable for Credit: No

Comprehensive editing, copy editing, proofreading, and style selection; review of Standard Written English grammar and usage.

Prerequisites: take ENGL-102 or ENGL-112 or ENGL-113; and take ENGL-125

ENGL-312 Transnational Professional Communication

(3 cr.)

Repeatable for Credit: No

Theories and practical approaches to the global aspects of professional communication, including translation and cross-cultural visual communication. Apply cultural models in order to understand and address the needs of users and colleagues from different cultural and linguistic backgrounds.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-350 Digital Storytelling

(3 cr.)

Repeatable for Credit: No

Create and critique visual and digital stories and the deployment of digital and visual media tools to tell a variety of stories from diverse social and cultural contexts.

Prerequisites: ENGL-102 or ENGL-112 or ENGL-113

ENGL-388 Writing for the Internet

(3 cr.)

Repeatable for Credit: No

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact.

ENGL-418 Convergent Communication

(3 cr.)

Repeatable for Credit: No

Defining and analyzing convergent medial practices in professional communication disciplines, industries and trades; exploring how convergence of print, video/audio and online media has influenced professional writing.

Prerequisite: take ENGL-218

ENGL-430 Writing for Content Management

(3 cr.)

Repeatable for Credit: No

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects.

Prerequisite: take either ENGL-215 or ENGL 320

ENGL-435 Writing Technical Manuals

(3 cr.)

Repeatable for Credit: No

Production of a technical manual--planning procedure, collecting information, analyzing audience, writing and field testing.

Prerequisite: take either ENGL-215 or ENGL 320

Six Sigma Green Belt Certificate

The Six Sigma Green Belt certification program addresses certificate methods for improving organizational effectiveness through increased productivity, quality, efficiency, and customer satisfaction.

This certificate is appropriate for staff and line professionals in all facets of manufacturing and service organizations.

Required Courses (12 credits)

A grade of B or better is required in order to become certified.

INMGT-320 Quality Tools

(3 cr.)

Repeatable for Credit: No

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance.

Prerequisite: take STAT 130

INMGT-325 Quality Management

(3 cr.)

Repeatable for Credit: No

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisite: take INMGT-200 or INMGT-210 or INMGT-335

INMGT-410 Six Sigma Quality Improvement Methods

(3 cr.)

Repeatable for Credit: No

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320 and INMGT-325

INMGT-420 Quality Assurance-Practicum

(3 cr.)

Repeatable for Credit: No

Application of principles and techniques learned in INMGT-320, as part of Professional Semester/ Manufacturing Laboratory.

Prerequisites: take INMGT-320 and INMGT-325

Social Work Certificate

Introduction

Students who complete the Social Work Professional Certificate will be able to:

1. Demonstrate their understanding of an effective, ethical, and culturally competent social work practice that emphasizes the strengths of people, families, groups, and communities.
2. Demonstrate their gained knowledge of the social work field which emphasizes applied research and scholarship while positively impacting social work practice and policy, locally to internationally.
3. Demonstrate their comprehension of theory-driven, evidence-based, and cultural-enriched knowledge that supports and advocates for socially and economically vulnerable and oppressed individuals, families, and communities in a respectful manner while fostering human diversity and social justice perspectives.

Required Courses

SOCWK-205 Introduction To Social Work and Social Welfare Policy

(3 cr.)

Repeatable for Credit: No

An introduction to the history, values and ethics, theoretical frameworks, various practice areas, and philosophy of social work. Educating on social work's role with cultural competency, social justice, social welfare and social policy will be discussed.

- SOCWK-398 Field Experience in Social Work (1-3 cr.)

SOCWK-420 Human Behavior in the Social Environment

(3 cr.)

Repeatable for Credit: No

Biological, ecological, sociological, psychological, cultural, and spiritual development throughout the life cycle. Human development with the social environment emphasis from micro (individuals), mezzo (groups and families), and macro (community and organizations) perspectives and various theoretical frameworks. Apply core social work competencies.

SOCWK-430 Social Work Practice Methods: Individuals

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of individuals (micro) social work practice: client interviewing, evidence-based assessments and interpersonal skills. Linkage to families, groups and communities/organizations. Apply social work competencies.

SOCWK-440 Social Work Practice Methods: Groups and Families

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of groups/families (mezzo) social work practice: group dynamics and processes, group development and family dynamics with intervention strategies. Linkage to individuals and communities/organizations. Apply core social work competencies.

SOCWK-450 Social Work Practice Methods: Communities & Organizations

(3 cr.)

Repeatable for Credit: No

Knowledge and skills of the intervention level of communities and organizations (macro) social work practice: advocacy, community needs assessments, coalitions, board of directors, leadership, fundraising and policy. Linkage to individuals and groups with families. Apply core social work competencies.

Sustainable Enterprise Management Certificate

The Sustainable Enterprise Management professional development certificate focuses on the relevant and applicable knowledge needed to assist organizations to be profitable while contributing to environmental sustainability and social responsibility.

The certificate is designed to provide a professional learning experience for individuals interested in expanding their expertise in

sustainable business.

Required Courses (15 credits)

SMGT-230 Triple Bottom Line Accounting for Managers

(3 cr.)

Repeatable for Credit: No

Financial and managerial accounting and how this information is used. Basic preparation of financial statements and their analytical use. How accounting information is applied by managers in decision-making process helping organizations meet the triple bottom line: strong profits, healthy environment, and vital communities.

Prerequisite: MATH 118 or higher. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-235 Economics in Society and Sustainability

(3 cr.)

Repeatable for Credit: No

Economic, social, and environmental issues facing society. Traditional issues such as markets and prices (microeconomics), government economic management (macroeconomics), and international trade. Introduction of economic content into analysis of selected topics such as poverty and discrimination, the environment, and the provision of government services. Critiques of conventional economic thought, within the context of systems thinking and ecological economics, and integrated throughout the course.

Prerequisite: MATH 118 or higher. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-331 Sustainable Organizational Finance

(3 cr.)

Repeatable for Credit: No

Introduction to the theory and methods of sustainable organizational finance. Topics include financial statements; discounting and budgeting; uncertainty and risk/reward trade-offs; and assessing financial implications of the triple bottom line (e.g., climate change, carbon trading, human resource management, and creating environmentally-conscious shareholder value).

Prerequisites: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-335 Management and Environmental Information Systems

(3 cr.)

Repeatable for Credit: No

This course presents an overview different technologies and information systems used in modern organizations. It covers various information systems for analyzing organizational data and processes. It presents tools for managing projects, promoting collaboration, and teamwork in the workplace. This course provides students hands-on experience with the information systems and technology tools. It also covers technologies that promote sustainability and includes topics such as green computing and low-carbon technologies.

Prerequisites: Take SMGT-230. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-350 Operations Management and Sustainability

(3 cr.)

Repeatable for Credit: No

The role of the operations function in an organization; linear programming; continuous and intermittent production processes; aggregate planning; inventory control; materials management; scheduling; project management; quality assurance; operations for green enterprises.

Prerequisites: take STAT 130 and MATH 118 or higher. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-430 International Management for a Sustainable World

(3 cr.)

Repeatable for Credit: No

zations. This includes socio-cultural aspects and group dynamics of international business and service organizations through the study of sustainable management practices - strong profitability, healthy environment, vital communities.

Prerequisite: take SMGT-235. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

Sustainable Management Science Certificate

The first of Stout's Enduring Goals states that the campus strives to: *Offer high quality, challenging academic programs that influence and respond to a changing society.* This certificate is part of the Sustainable Management Program, which is a collaboration between the University of Wisconsin - Stout and UW-Extension, and four UW universities, and is offered totally online.

The collaborative aspect of the program draws from the expertise found on the five University of Wisconsin entities, which, in turn, contributes to "high quality" in curriculum and instructors. The online aspect of the program addresses the Enduring Goal in that online learners a significant, and ever-increasing component of "a changing society".

Required Courses (12 credits)

SMGT-305 Climate Change and Sustainability

(3 cr.)

Repeatable for Credit: No

This course focuses on climate change science and greenhouse gases, natural and human impacts of climate change, and sustainable and efficient strategies to limit carbon emissions. The course is divided into three major areas: 1) climate science and measured impacts, 2) modelled predictions and mitigation/adaptation strategies, 3) sustainable and carbon neutral practices. This course will emphasize not only the economics of carbon budgeting and increasing efficiency but also the human role in creating and solving climate change and the discrepancies in who, where, and what will be impacted by both climate change and the necessary solutions.

Prerequisites: take SMGT 115 For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-310 Ecology for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Interrelationships of organisms with each other and their environments. Investigation into composition and dynamics of populations, communities, ecosystems, landscapes, and the biosphere with emphasis on sustainability. Enrollment in online Sustainable Management degree program required.

Prerequisite: BIO-GXX. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-320 Renewable Energy for Sustainable Management

(3 cr.)

Repeatable for Credit: No

Sustainability as it relates to the world's increasing use of energy, considering the potential harm done via greenhouse gases released from burning fossil fuels and the prospects for large-scale implementation of more benign sources such as the sun, geothermal, wind, and water.

Prerequisite: MATH-GXX, For B.S. in Sustainable Management majors only or with permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-325 Natural Resource Management

(3 cr.)

Repeatable for Credit: No

The interdependence between natural resources associated with land, air, and water. Explores significant environmental issues regarding the policies and problems in the use and management of natural resources related to soils, vegetation, landscape within the context of social needs and sustainability.

B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

Web Technology Certificate

The certificate provides participants with the knowledge needed to have a broad understanding of how to plan, develop, implement and evaluate standards based websites and strategies for their success. Professionals develop relevant understanding and use of information and communication technologies to increase the probability that the targeted end users are able to find and access the information or services they are seeking, and organizations are able to track the use and performance of their content through actionable data.

Required Courses (12 credits)

DMT-311 Information and Communication Technologies Analytics

(3 cr.)

Repeatable for Credit: No

Determine the value of electronic information and communications, developing metrics, determining return on investment on information and communication technologies.

Prerequisite: take ICT-103

DMT-275 Web Production and Distribution

(3 cr.)

Repeatable for Credit: No

Production and distribution of content to the World Wide Web. Consideration given to basic information architecture, standards, best practices, technologies, planning, implementation, management and distribution of digital content.

Prerequisite: take either ICT-103 or GCOM-151

DMT-475 Dynamic Web Technologies

(3 cr.)

Repeatable for Credit: No

Contemporary applications of technologies affecting adaptive user-centered web development as pertaining to content, presentation, scripting, variable data, markup languages, information architecture and analytics.

Prerequisite: take DMT-275

DMT-485 Search Engine Optimization

(3 cr.)

Repeatable for Credit: No

Contemporary application of strategies and technology related to the improvement of placement in search engine and other relevant search results.

Women and Gender Studies Certificate

This certificate introduces students to concepts crucial to the study and application of knowledge in the field of women and gender studies as they enter a highly competitive job market. Certificate recipients will be able to apply and articulate interdisciplinary knowledge specific to women and gender studies such as social construction of gender in relation to such factors as race, ethnicity, class, sexuality, disability, and age.

Required Courses (12 credits)

WGS-210 Introduction to Women and Gender Studies

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary analysis of gender and discrimination, including an examination of history, science, art, and institutions throughout the U.S. and globally.

HIST-321 United States Women's History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity,

class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

SOC-275 Sociology of Gender Roles

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

Sociological analysis of social roles played by the sexes.

ANTH-356 Gender in Cross-Cultural Perspective

(3 cr.)

Global Perspective, Social Responsibility & Ethical Reasoning

Repeatable for Credit: No

Gender roles in cross-cultural perspective. Anthropological theories of gender and inequality; social responsibility balancing cultural relativism and equity. Variation in domestic, social, economic, political, and religious roles; historical development of and contemporary changes in gender roles; global influences and processes of change and improvement in the lives of modern women.

Workplace Diversity Certificate

The Workplace Diversity certificate is designed to assist managers and HR professionals in dealing with an ever more diverse workforce. This program is designed to show managers how to capitalize on this diverse workforce and improve long term organizational success by bringing fresh ideas and new perspectives to the world of work.

Our approach is focused upon how individuals and groups can use their differences to become more creative and resilient. Courses focus on issues like changing Human Resource Practices and organizational change methods that will bring effective change and a sense of inclusion to the organization. The program also includes courses about unique features of specific minority groups, their culture and histories, to sensitize the student to cultural differences. Specifically, the program focuses on differences in: race and ethnicity, gender identity, age, disability, religion and sexual orientation.

Required Courses:

1. Foundation

- PSYC-311 Foundations of Workplace Diversity (3 cr.)

COMST-312 Intercultural Communication

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Communication Skills, Social Responsibility and Ethical Reasoning

Repeatable for Credit: No

Communication concepts and strategies in and for a global multicultural society. Communication norms in cultures of origin and functional appreciation of cultural diversity in social networks using verbal, nonverbal, and group communication. Relevant concepts include identity formation, perception, worldview context, social stratification, racism, ethics, and language.

Prerequisite: must be Sophomore level or higher

Choose one course from Area 2 and one course from Area 3.

2. Ethnicity/Race

HIST-322 African-American History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Social, cultural, economic and political history of African-Americans, with special focus on the United States.

HDFS-275 Race Matters: Interdisciplinary Investigations

(3 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

Application of cognitive and emotional skills to racial topics such as interpersonal relationships, media, and politics. Types of racism. How to talk about race. Antiracist strategies.

EDUC-336 Multiculturalism: Issues & Perspectives

(2 cr.)

Racial & Ethnic Studies Category A

Repeatable for Credit: No

An intensive examination of multiculturalism in U.S. and global schools and communities. Examination of the educational and cultural needs of diverse social and cultural groups. Discussion of hegemony, and cultural, race, socioeconomic, political, gender, LGBT, and language barriers to equal educational and economic opportunity. Strategies for educational and socioeconomic equity.

3. Gender

INMGT-415 Inclusivity in Leadership

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No

An examination of leadership dynamics for but not limited to women, people of color and other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations.

Prerequisites: take SOC-110 and either INMGT-400 or BUMGT-304

SOC-275 Sociology of Gender Roles

(3 cr.)

Racial & Ethnic Studies Category B

Repeatable for Credit: No
Sociological analysis of social roles played by the sexes.

HIST-321 United States Women's History

(3 cr.)

Racial & Ethnic Studies Category A, Arts and Humanities - History

Repeatable for Credit: No

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity, class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

HDFS-350 Women's Relationships in Later Life

(3 cr.)

Repeatable for Credit: No

Women's experiences in later life. Impact of race, culture, class, sexual orientation upon aging. Images of aging women in contemporary literature and the media. Older women's experiences in familial relationships and friendships.

Must be Junior level or higher

WGS-210 Introduction to Women and Gender Studies

(3 cr.)

Racial & Ethnic Studies Category A, Global Perspective, Cross-disciplinary Issues

Repeatable for Credit: No

Interdisciplinary analysis of gender and discrimination, including an examination of history, science, art, and institutions throughout the U.S. and globally.

Choose a course from two of the following areas (4-7):

4. Age

HDFS-340 Human Development: Middle to Late Adulthood

(3 cr.)

Repeatable for Credit: No

Physical, psychological, and social developmental processes of middle and late adulthood. Analysis of intragenerational and intergenerational relationships. Critical evaluation of societal impacts on adults and their families. Develop a sensitive and informed approach to effectively working with midlife and older adults.

Prerequisite: take HDFS 124 and HDFS 330

HDFS-350 Women's Relationships in Later Life

(3 cr.)

Repeatable for Credit: No

Women's experiences in later life. Impact of race, culture, class, sexual orientation upon aging. Images of aging women in contemporary literature and the media. Older women's experiences in familial relationships and friendships.

Must be Junior level or higher

REHAB-355 Rehabilitation of the Older Disabled Worker

(2 cr.)

Repeatable for Credit: No

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability.

5. Disability

REHAB-230 Psychosocial Aspects of Disability

(3 cr.)

Repeatable for Credit: No

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisite: take REHAB-101

HT-360 Tourism for Persons with Disabilities

(3 cr.)

Repeatable for Credit: No

Examination of the effectiveness of current legislation and initial strategies to purposely accommodate the needs and preferences of persons with disabilities to promote a more inclusive environment within the hospitality and tourism industry.

6. Religion

- XXX-XXX Religious Issues in the Workplace (3 cr.)

7. Sexual Orientation (LGBTQ)

HDFS-352 Sexual and Gender Identities in Families and Society

(3 cr.)

Repeatable for Credit: No

Introductory understanding of sexual and gender identities in families and society.

8. Capstone (required)

- PSYC-XXX Applied Diversity Organizational Strategies (3 cr.)

Note(s):

*** HDFS 350 may only be taken to count toward one area.*

Other Programs

University Requirements: General Education, Racial and Ethnic Studies, and Global Perspective

University Requirements

UW-Stout prepares students to graduate with broad, important understandings of daily life in a global society. Thus, there are three university requirements to be fulfilled prior to graduation:

1. Racial and ethnic studies (RES)
2. Global perspectives (GLP)
3. General education (GE, divided into categories and areas)

Within the general education requirement, a single course cannot be used by students to fulfill multiple categories; however, a single course might be eligible for more than one category. For example, CHEM-110 is approved as both Natural Science and Cross-disciplinary Issues, but CHEM-110 will meet just one category in the student's program.

Note: Some courses fulfill requirements in all three areas. An example of a single course that fulfills GE, RES, and GLP requirements is ANTH-320. Students who select courses that count for more than one requirement (GE, RES and GLP) reduce the total number of courses they take to fulfill the above university requirements.

Racial and Ethnic Studies Requirement (6 credits)

Each student must satisfy the Racial and Ethnic Studies (RES) requirement as preparation for being an engaged citizen in a highly diverse society. Through approved courses, it is hoped that graduates will come to appreciate, understand, value and respond respectfully to cultural diversity, to discourage racism and thus reduce its effects. Racial and Ethnic Studies Courses examine the experiences of race and ethnicity within the United States. An important emphasis is critical reflection and application of acquired learning to professional and personal contexts. Courses draw from at least two of the following topics:

1. Historical and ideological construction of race
2. Racial/ethnic identity formation
3. Racial impact of/on public policy
4. Stratification of differences
5. Exploration of students' cultural and racial/ethnic experiences

Category RES-A courses devote 75% - 100% of content to the selected topics. Category RES-B courses devote 50% - 74% of content to the selected topics. While a quality Racial and Ethnic Studies course will address the selected topics, it is not expected that each will be emphasized equally. Effective 2013, students are required to take six credits of RES courses, with a minimum of three credits from the Category RES-A course list.

Racial and Ethnic Studies Course List

Global Perspective Requirements (6 credits)

For students admitted for Fall 2017 or later, the Global Perspective graduation requirement is slightly revised:

The UW-Stout Global Perspectives requirement plays a critical role in helping students develop an understanding of the deeply interconnected nature of the world. It helps students see local, regional, and global connections, and thus, how their own behaviors, ideas, and activities are globally situated. Understanding global perspectives and how they are formed is not just a prerequisite for becoming a global citizen; it is necessary for becoming an engaged citizen of any local community. Therefore, to earn a bachelor's degree, students must fulfill a global perspective requirement, by:

- Completing six credits of university-approved work or
- Completing six credits of courses approved by the CIC as fulfilling the global perspective requirement.*

*For a course to fulfill the global perspective requirement, it must engage in at least two of the following four categories, 1-4, and at least one subsection within these categories:

1. Global self-awareness: Requires consciousness of the thoughts, feelings, values and biases one has about oneself in relation to the global community and an appreciation that a person's worldview is neither permanent, universally shared, nor necessarily lawful, moral, or ethical. It assumes that we know ourselves, in part, by knowing and valuing the histories, identities and values of diverse others.

A. Identify, analyze and evaluate one's own cultural norms, values, and biases regarding global communities and issues, and demonstrate awareness of how one's experiences have shaped these norms, values and biases. Demonstrate the ability to think globally, articulating one's place as a global citizen.

B. Demonstrate the ability to view and critique diverse global issues with awareness, sensitivity, curiosity, ambiguity and complexity.

C. Develop appreciation for diverse voices and stories and the contributions of cultures and countries different from one's own.

2. Global knowledge: Global knowledge requires understanding of the deeply interconnected nature of the world.

A. Develop a systemic understanding of the interrelationships and contradictions between and within the self, cultures, international and intercultural issues, societal trends and socioeconomic institutions.

B. Recognize social, economic and environmental impacts on the developments, trends and problems facing the world community. Examples include population growth, migrations, global economic structures and disparities, depletion of resources and international conflicts.

C. Demonstrate knowledge of inequities around the world and the historical roots for these inequities. Examples include the impact of globalized capitalism and neoliberalism on economic systems, inter and intra-societal stratification, civil and human rights, and sustainability.

D. Express a critical understanding of the value systems, cultural, political and economic norms and practices, business and technical standards, communication styles, and social formations representative of global societies, in current and historical context.

3. Global viewpoint: Global viewpoint requires the ability to look at global issues from multiple perspectives, through different historical lenses, or in terms of different theoretical frameworks.

A. Critically examine assumptions and intellectual debates about global issues relevant to a discipline.

B. Identify and evaluate different social, ethical and moral questions that underlie cultural, political and/or economic relationships within and between countries.

C. Engage in respectful dialogues with global cultural communities, leading to multiperspective analysis of local, international and intercultural problems.

D. Pose critical questions about the construction of global power relations, and investigate the diverse dynamics of social, economic and political global transactions.

E. Evaluate the need for sustainable communities and economic practices across the globe.

4. Global engagement: Global engagement uses knowledge and skills to take effective critical action, contributing to positive change in globally diverse, interconnected and interdependent natural, social and business environments.

A. Demonstrate an understanding of how people from different countries and cultures act, communicate verbally and nonverbally,

and perceive the world around them.

B. Act, personally or collaboratively, in creative and ethical ways, to contribute to problem solving locally, regionally, and/or globally, and assess the impact of actions taken.

C. Plan, apply or evaluate strategies for addressing global conflicts, creating paths to peaceful resolutions, and collaborating and working effectively within and across diverse cultures.

D. Evaluate laws, standards, policies or practices that claim to contribute to social, cultural, economic, political and environmental improvements, locally, regionally or globally.

E. Create or design appropriate technical solutions for local, regional, or global life, and assess the impacts of the design.

The following Global Perspective (GLP) courses count toward the six-credit requirement:

Global Perspective Course List

General Education Requirements (40 credits)

The General Education Program provides the core of what it means to be a well-educated university graduate. The goal is to promote human excellence through a broad foundation of skills and knowledge required to realize a meaningful personal, professional, and civic life. The General Education Program is intended to enable students to contribute to and live responsibly in a diverse, interconnected, and technologically sophisticated global community.

In accordance with the general education program, general education courses should be accessible to a broad audience and should further the goal of providing a well-rounded education regardless of career aspirations or program of study.

In this spirit, academic programs should provide flexibility for students to select from the General Education course array and limit the use of prescribed General Education courses within an academic degree program plan.

Each degree program has a general education component designed to provide you with knowledge and skills in communication, analytic reasoning, natural sciences, arts, humanities, social and behavioral sciences, cross-disciplinary issues, social responsibility and ethical reasoning. Listed below are the general education requirements and courses that will fulfill these requirements. General education courses are listed by category and area. Not all courses are offered each semester. Changes to the course list can occur at any time. Some degree programs have specific general education courses that must be taken in order to satisfy certification, accreditation or prerequisite standards. These exceptions are noted on your program plan sheet.

Communication Skills (9 credits)

Communication Skills Course List

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination.

Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Analytic Reasoning and Natural Sciences Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Arts and Humanities Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Social and Behavioral Sciences Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved Cross-disciplinary Issues courses.

Cross-disciplinary Issues Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses, which includes a wide array of disciplines (e.g., ethics and government, literature, science and society, wellness) and a variety of pedagogical methods (e.g., case studies, small group discussions, service learning, lectures, reading assignments, and activity courses).

Social Responsibility and Ethical Reasoning Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Note

With careful planning, you may take a single course that fits into areas of general education, racial and ethnic studies, and/or global perspective. While credits count once toward graduation, they may be used to satisfy multiple requirements. When a course meets multiple requirements, codes indicating other categories are listed in parentheses next to the course listing.

Students planning to study abroad should refer to application materials and consult with advisor to see how courses taken abroad satisfy GE and RES requirements.

Exceptions, substitutions, and/or waivers regarding General Education, Racial and Ethnic Studies, or Global Perspective requirements must be approved by the Associate Vice Chancellor.

General Education, RES, GLP

University Requirements: General Education, Racial and Ethnic Studies, and Global Perspective

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A. Identify, analyze and evaluate one's own cultural norms, values, and biases regarding global communities and issues, and demonstrate awareness of how one's experiences have shaped these norms, values and biases. Demonstrate the ability to think globally, articulating one's place as a global citizen.

B. Demonstrate the ability to view and critique diverse global issues with awareness, sensitivity, curiosity, ambiguity and complexity.

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B. Act, personally or collaboratively, in creative and ethical ways, to contribute to problem solving locally, regionally, and/or globally, and assess the impact of actions taken.

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Communication Skills (9 credits)

Communication Skills Course List

ENGL-101 Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

First in a two-course sequence. Communication skills for a variety of personal, professional, and academic contexts. Drawing from rhetorical traditions, students will communicate effectively through multiple modalities.

Prerequisites: Designated score on the Wisconsin English Placement Test or a "C" or better in ENGL-90.

ENGL-111 Honors Composition 1

(3 cr.)

Communication Skills

Repeatable for Credit: No

Introductory, first-semester composition course for students in the Honors College. Practice in college-level writing, critical thinking, and reading. Introduction to academic research, source-supported writing, argumentation, and conventions of structure, style, grammar, mechanics, and format appropriate to specific rhetorical situations. Sustained writing assignments allowing students to explore topics of humanistic inquiry.

Prerequisites: 1) Enrollment in Honors College. 2) English Placement Test or ACT score qualifying student for placement in ENGL 101.

ENGL-102 Composition 2

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second course in a two-course sequence, Refines transferrable communication skills to apply them to a variety of personal, professional, and academic contexts. Research and inquiry, rhetorical and critical reading, writing, and thinking skills. Synthesis of readings and texts. Improvement of written, digital, and visual composition skills and academic writing practices and conventions.

Prerequisite: C- or better in either ENGL-101 or ENGL-111

ENGL-113 Honors Composition 2: Honors Seminar

(3 cr.)

Communication Skills

Repeatable for Credit: No

Second-semester composition course for students in the Honors College. Intensive reading and writing in a topic of inquiry. Writing a rhetoric instruction building on the skills learned in ENGL 111. Preparation of a sustained writing project suitable for dissemination. Department Consent

Prerequisite: Grade of C- or better in ENGL 111; Enrollment in the Honors College

COMST-100 Fundamentals of Speech

(3 cr.)

Communication Skills

Repeatable for Credit: No

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Analytic Reasoning and Natural Sciences (10 credits)

Courses must be from the areas of analytic reasoning and natural sciences. At least one mathematics or statistics course and a natural science course with a lab are required.

Analytic Reasoning and Natural Sciences Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Course Selective-3 :

Choose a selective to fulfill credit requirements.

Arts and Humanities (6 credits)

Courses must be from two or more areas including art history/music & theater appreciation, creative/performing arts, foreign language and culture, history, literature, and philosophy.

Arts and Humanities Course List**Course Selective-1 :**

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Social and Behavioral Sciences (6 credits)

Courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

Social and Behavioral Sciences Course List**Course Selective-1 :**

Choose a selective to fulfill credit requirements.

Course Selective-2 :

Choose a selective to fulfill credit requirements.

Cross-disciplinary Issues (3 credits)

Courses must be selected from the list of approved Cross-disciplinary Issues courses.

Cross-disciplinary Issues Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Social Responsibility and Ethical Reasoning (3 credits)

Courses must be selected from the list of approved social responsibility and ethical reasoning courses, which includes a wide array of disciplines (e.g., ethics and government, literature, science and society, wellness) and a variety of pedagogical methods (e.g., case studies, small group discussions, service learning, lectures, reading assignments, and activity courses).

Social Responsibility and Ethical Reasoning Course List

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Selectives (3 credits)

Courses/credits may be selected from any category to meet the 40-credit requirement.

Course Selective-1 :

Choose a selective to fulfill credit requirements.

Note

With careful planning, you may take a single course that fits into areas of general education, racial and ethnic studies, and/or global perspective. While credits count once toward graduation, they may be used to satisfy multiple requirements. When a course meets multiple requirements, codes indicating other categories are listed in parentheses next to the course listing.

Students planning to study abroad should refer to application materials and consult with advisor to see how courses taken abroad satisfy GE and RES requirements.

Exceptions, substitutions, and/or waivers regarding General Education, Racial and Ethnic Studies, or Global Perspective requirements must be approved by the Associate Vice Chancellor.